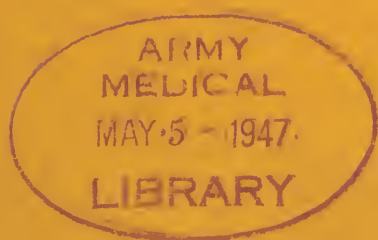


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HEALTH
FUNDAMENTALS
for
TEACHERS



SCHOOL PUBLICATION No. 376

- - - 1942 - - -

Los Angeles city school district

HEALTH
FUNDAMENTALS
for
TEACHERS

SCHOOL PUBLICATION No. 376
Office of the Superintendent
LOS ANGELES CITY SCHOOLS
- - - 1942 - - -

FOREWORD

THE pronounced interest in health of all of us is reflected in a growing demand for health education material. In these days of rapid scientific progress we desire a guide in winnowing the wheat from the chaff. What to teach is an ever-present problem. What is important, what is controversial, what should be emphasized in health teaching?

We hope the material contained in these pages will help to answer these questions and solve this problem. It at least points the way to such a solution. Study it and use it in your health education classes.

V. KERSEY,
Superintendent of Schools.

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INTRODUCTION

FOR many years health in schools was considered the sole responsibility of highly specialized professional groups such as physicians, dentists, nurses, and physical education teachers. The conception of the health program in schools, however, has widened in scope to include education in healthful experiences, attitudes and habits, and the acquisition of sound, scientific health information.

There has developed an almost universal awareness that our progress as a great nation turns upon the health and vigor of all the people. Our young people come upon the floor of life as the raw material from which our country will be built. The shape this raw material takes, the structure, the lustre, the fibre itself, and its final usefulness depend on how health is built into each living piece.

Only if each and every teacher in our schools becomes a health instructor can this challenge be met. To meet it we must have knowledge and accurate information of the scientific principles upon which health teaching is based. In the following publication Dr. Goffin and his co-workers have condensed in a short space much fundamental factual material on health. This knowledge should be a part of every teacher's equipment in guiding young people to fuller, richer, more vigorous living. We hope it will also point the way to wider reading and satisfying experiences in this most essential field of health education.

C. MORLEY SELLERY, M.D.,
Director Health Service Section.

PREFACE

THIS booklet grew out of a need to revise *Health Education Today*, which was published in 1938. This booklet proved useful and requests for copies continued to be made after the issue was exhausted. However, it was realized that all teachers, both elementary and secondary, needed more factual information, properly organized and reduced to the essentials and made readily available for reference. Accordingly, the matter was entirely rewritten, more detail added, some units deleted and new units inserted.

The facts presented here will be found in many textbooks and reference works, but scattered and often smothered by a clutter of detail or hedged off by a barbed-wire entanglement of technicalities. Preparing lesson outlines often involves many hours of reading books containing the same or similar topics and rearranging and condensing them.

This is not meant as advice to the teacher to do no further reading on these subjects. On the contrary, it is hoped that the viewpoints expressed and the facts presented will stimulate further reading and study.

Lack of space precluded the use of lengthy anatomical and physiological descriptions. Facts on structure and function are often essential for a full understanding of health and disease and are authoritatively discussed in the standard school texts on Hygiene. First Aid is not included because it is adequately treated in the Red Cross Manual, widely used and familiar to every teacher.

The writer wishes to gratefully acknowledge helpful suggestions from the following: Dr. C. Morley Sellery, Dr. W. M. Gardner, Dr. Orren Lloyd-Jones, Mr. Wm. B. Brown, Mr. Martin H. Trieb, and Mr. Kenyon M. Smith. The Unit on Posture was rewritten by Mr. John C. Burke and the Unit on Mental Hygiene by Dr. Arthur R. Timme.

JOHN L. C. GOFFIN, M.D.

UNIT I

THE HEALTH EDUCATION PROGRAM

in the

ELEMENTARY SCHOOL

Health instruction is highly important in the elementary school because elementary pupils are still in the habit-forming age. It is a well-known fact that the older an individual grows the harder it is to change his habits, good or bad. The object of elementary instruction is to form good habits of living and thinking in conformity with modern scientific knowledge. This means that pupils must be given an opportunity to practice these ways of thinking and doing—not occasionally—but continuously. Within the limits of their understanding they must know why they are expected to do certain things. Blind obedience is anything but a virtue. The older the child the less satisfied he is to do things without a definite reason. Moreover, the doing of things must bring satisfactory results or the child will not continue to make the effort. Where these results are projected into the future, as frequently happens in the health field, it may tax the ingenuity of the teacher to substitute more immediately attainable rewards for effort.

Teacher Must Know Pupils

It goes without saying that the teacher must know the present health habits of pupils and their capacities and limitations before she can hope to improve their health or their healthful living habits. By training and observation she can learn to determine whether the child's health behavior is according to acceptable standards. By observing his appearance and reactions to classroom situations she can usually determine whether his health is good or bad, and with experience can form a fairly shrewd opinion as to some of the causes of his poor health. But for an accurate health appraisal of the child she will need the assistance of the school physician.

Health instruction is basic in the curriculum because health is basic to constructive activity. It has been said before and cannot be too often

repeated that all classroom problems are basically health problems—considering health in its three ramifications: physical, mental, and social. This being the case, the health implications of all teaching should be kept uppermost in mind. Health instruction is not something that can be relegated to a set time assignment and then forgotten between times. It must be as constant as breathing or the beating of the heart.

Such teaching does not crowd out or displace any essential skill or desirable learning experience; it makes all learning more productive and facilitates the acquisition of all skills. For if a child lives more healthfully he will learn more readily. If he learns to think scientifically about the care of his body and mind he will approach all the problems confronting him in a more intelligent manner.

Health Co-ordination

If the two chief goals of the school—healthy children, well trained in healthful living—are to be achieved, there must be, in every school, teamwork between and among *all* the personnel of that school. This means that the principal, all the teachers, the secretary, the custodian, the counselor, the doctor, the nurse, the dentist, the parents, must work together, with a common understanding of the problem, the best means of attacking it, and with a clear idea of the part each must play. To accomplish this ideal of teamwork it is necessary to have a program of health co-ordination. To have real health co-ordination there must be a health committee with a health co-ordinator in charge. The elementary teacher is urged to read carefully the Unit on *Health Co-ordination* on pages 43 to 47.

In the upper elementary grades (3-6 inc.) there should be a definite time allotted to health instruction, with textbook and other reading assignments. This is necessary if pupils are to receive well rounded training in all phases

of health. The pendulum in education is swinging again to the freer use of textbooks. It is recognized that they are necessary as guides and as reservoirs of organized factual material. They should be chosen with care, kept up to date, but should not take the place of independent study and thinking on the part of teachers or pupils. Both direct and integrated health teaching are essential in elementary and high school grades. See School Publication No. 330, *Health Education Program in Elementary and Secondary Schools*.

The elementary teacher will find the following outline useful as a guide in conducting a functional health-education program. Other units in this book provide basic factual material in each of the areas concerned with physical, mental, emotional, and social health.

The Elementary Teacher's Part in Health Education

1. *Reasons for health education:*

- (a) To teach children sound knowledge, habits, and attitudes toward individual and community health.
- (b) To increase the usefulness and happiness of our future citizens.
- (c) To so educate children in health attitudes today that they, as the parents of tomorrow, will give their children a better start in life.
- (d) To make possible a gradual reduction (perhaps elimination) of most communicable diseases and preventable health defects.
- (e) To prevent the coming generation from acquiring health superstitions and growing up with such scanty knowledge of hygiene that they will continue to support quackery and be influenced by propaganda opposing scientific advancement.
- (f) To so increase health knowledge and behavior that in time the public will support all progressive measures for the improvement of the race.

2. *Definition of Hygiene:* The science and art of healthful living. The teaching of hygiene implies the training of a child in health habits, attitudes and knowledge so that he will maintain health of body and mind and have healthful social relationships throughout life, and feel his responsibility for a healthy society.

3. *The Responsibility of the Schools in Health Education:*

The schools have assumed this responsibility because:

- (a) Health education is part of the education for living. "Health education is as legitimately a function of the school as is training in the three R's."
- (b) They are the only social agency with the knowledge and facilities to carry on such a program.
- (c) They have the child under their guidance continuously from early childhood on through adolescence.
- (d) Parents (except in few instances) are failing to provide such training, because they themselves were inadequately trained in childhood and because health education has become complex and technical.

4. *The Classroom Teacher's Part in Health Education:*

Teachers have a direct responsibility in health education because:

- (a) Health of mind and body is an integral part of living. It must be a continuously integrating force in all instruction.
- (b) Teachers have children under their care for long periods and children respect their opinions.
- (c) It would be impossible to provide enough specially trained health teachers to do the work.

5. *Methods Teachers May Use in Health Education:* Training of children in health habits, attitudes and knowledge in elementary grades, by:

- (a) Daily morning inspection, noting health defects and reporting them to doctor and nurse, and checking on health habits.
- (b) Recording room temperatures and demonstrating air circulation in room (sanitation, ventilation, etc.).
- (c) Teaching health habits relating to diet through lunch period activities and by means of the school cafeteria.
- (d) Teaching rest and relaxation by means of rest periods.
- (e) Teaching exercise and posture habits through playground activities.

- (f) Teaching cleanliness and correct elimination habits in connection with the nutrition program.
- (g) Teaching mental hygiene through all school activities.
- (h) Health plays and pageants by pupils.
- (i) Health exhibits by pupils.
- (j) Health posters and charts made by children.
- (k) Health projects by children, such as learning about local board of health, finding out about local disease incidence and prevention, investigating city water supply, learning about milk supply, etc.
- (l) *Giving health emphasis to every phase of classroom instruction (Important).*
- (m) Inviting doctors, nurses and dentists to give health talks.
- (n) Setting pupils good example in posture, freedom from health defects, development of a personality which radiates health.

6. *Health Habits in Which Elementary Pupils Should be Trained:*

Nutrition: Child eats at least two kinds of cooked and two kinds of raw, leafy vegetables daily; eats at least one kind of fruit daily; eats whole grain cereals and bread; drinks one quart of milk daily; drinks four or five glasses of water daily; eats slowly, chewing food well; washes hands before eating; eats only at regular times; does not use common drinking cup; does not exchange food with other children or eat food which has fallen on floor or ground; does not touch mouth to any part of drinking fountain; does not eat large amounts of candy; avoids tea and coffee.

Sleep and Rest: Child rises promptly; sleeps with windows open and lights out; knows how to relax and go to sleep quickly at bedtime or in afternoon; sleeps 12 hours if age is 5-7; 11 hours if age is 8-12 years; 10 hours if age is 13-15 years.

Toilet Habits: Child evacuates bowels at least once daily at regular time; attends to elimination of bladder and bowel promptly; keeps toilet sanitary—flushes toilet; washes hands after visiting toilet.

Care of Skin: Child takes a bath for cleansing purposes at least twice weekly; takes shower baths after exercise if shower avail-

able; keeps hands and face clean; washes hands before eating and after toilet—always; uses individual or paper towels; dries skin thoroughly.

Care of Hair and Scalp: Child brushes own hair daily; uses own comb and brush; keeps comb and brush clean.

Use of Clothing: Child comes to school with clothes as clean as possible; removes wraps and rubbers when indoors; keeps dry when possible and removes damp clothing indoors.

Care of Hands and Feet: Child keeps hands and feet clean; does not bite nails or put fingers in mouth; keeps finger nails and toe nails trimmed.

Care of Teeth and Mouth: Child brushes teeth properly at least twice daily; uses only his own tooth brush; does not bite hard substances that will injure teeth; keeps foreign substances out of mouth; goes to the dentist at least twice each year.

Care of Nose and Throat: Child breathes with mouth closed; uses only his own clean handkerchief; does not pick nose; covers mouth and nose with handkerchief when sneezing or coughing. Blows nose gently; does not put anything into nostrils. Does not yell or shout while talking.

Care of Ears: Child does not strike other children on ears; does not put anything into ears, keeps ears clean.

Care of Eyes: Child reads or works only in a good light; holds his book in correct position and sits correctly; does not read in bed; does not read lying on stomach; wears glasses if prescribed; does not rub the eyes.

Mental and Emotional Health: Child persists in his work, usually completing the task successfully; does his work promptly; enjoys his work; meets disappointment bravely; remains good humored under trying conditions; has self-control in anger, fear, and other strong emotions; forgets grudges quickly; shows keen interest and curiosity concerning the work about him; concentrates on what he is doing; is not timid or afraid of animals, dark, storms, etc.; is generally happy and cheerful; enjoys humorous situations; tends to be truthful; has self confidence; enjoys play.

Social Health: Child is friendly with other children; is not afraid of other children or strange adults, such as doctors and nurses; is able to amuse self and is not dependent on

adults in play; interested in making other people happy and is willing to help them; is obedient and respectful to those in authority; shows kindness to those who are weaker or younger and does not tease or bully; shows kindness toward animals; obeys the rules of

the group; waits for his turn; is willing to take part in group activities; settles difficulties without appealing to the teacher; refrains from interrupting others needlessly; refrains from quarreling; refrains from taking what belongs to other children.

THE JUNIOR AND SENIOR HIGH SCHOOL

As the pupil leaves the more sheltered environment of the elementary school in which one teacher was responsible for his guidance and intimately acquainted with his needs, and enters the more complex situation found in the junior high school in which many more adult contacts are necessary, he is forced to make many adjustments. He is given more responsibility because his knowledge and skill are presumed to be more advanced and his judgment more mature. Responsibility for his guidance is shifted from one teacher to several.

The seventh grade pupils are not all alike in many respects. Some are more mature than others. Particularly in health training do they differ. Health instruction must be adapted to the least well trained. From now until graduation pupils must be given more health information—more factual background—increasing in scope and detail from year to year as their knowledge and mental maturity increase.

For these reasons it is imperative that a comprehensive course in hygiene be taught each year, with certain teachers responsible for this instruction. The Superintendent's Health Education Committee has outlined the instructional matter to be covered each year from the seventh through the twelfth grades. These outlines will be found in School Publication No. 330, *Health Education Program for Elementary and Secondary Schools*. In the seventh grade special health instruction is given in Physical Education; in the eighth grade in General Science; in the ninth grade in Physical Education; in the tenth in Life Science; in the eleventh in Physical Education; and in the twelfth grade in Senior Problems.

But this alone is not enough. This alone will not solve the health education problem in high school. This effort does not release each

teacher—no matter what "subject" he or she teaches—from responsibility in the health-education program. Every teacher should integrate health instruction in his teaching, whether he teaches Mathematics, Languages, Art, Music, or Industrial Arts. Every teacher should know the health status and health habits and attitudes of all the pupils. Every teacher should be constantly alert to health conditions in the classroom. Every teacher should be prepared to recommend pupils for exclusion who are endangering their own health or the health of other pupils by remaining in the classroom. Every teacher should do his utmost to keep his own health at a high level.

Uppermost in the mind of every teacher should be the growth and development problems of pupils and their preparation for the art of healthful living. Only when all these conditions are fulfilled can it be truly said that a school places health first in importance. These conditions can be fulfilled. All that is required is a redirection of interest and effort.

Above all, it must be remembered that didactic instruction, unless accompanied by pupil planning and participation, is outmoded. All learning experiences must be related to the student's needs, curiosities, and interests. He is studying life as a whole. He is concerned with health problems whether he realizes it or not. He may deal with them positively or negatively; he cannot ignore them. How he deals with them will be determined by his teachers and his parents.

The secondary teacher should read the material discussed under *The Health Education Program in the Elementary School* on pp. 5 to 8, as the same principles apply in both areas. He should also read the unit on *Health Co-ordination* beginning on page 43.

UNIT II

FOOD AND NUTRITION*

Introduction: Eating is an indispensable activity. The kind and quantity of foods we habitually consume determines to a measurable extent the sort of individuals we are. They determine our health, our efficiency, our happiness, and our length of years. The customs and traditions of the home largely determine a child's food habits and the kind of food he eats. The school, however, has a definite responsibility in correcting faulty attitudes and habits in respect to nutrition and giving knowledge based on the newer scientific discoveries of food chemists, physicians, and nutritionists. The school nutrition laboratory may well be the cafeteria and, in the high school, the home economics classroom. Nutrition instruction should begin in the kindergarten and be continued all through school until the pupil graduates.

1. What is food?

Most people think of food as bread and butter, meat and potatoes, vegetables and fruits. But today we need a new vocabulary when discussing food. All foods really consist of chemical compounds which are taken apart and built up in our bodies to repair or replace injured or broken down cells, to make new cells, and to furnish heat and energy for work. We need to know what kinds of food contain certain compounds and in what proportions they are present. We need to know these things so that we can balance our diets and obtain enough of the different chemical compounds for health, strength, growth, and protection against disease.

2. What are these chemical compounds?

There are six groups or classes, and all are equally important and necessary to health. They are:

- (a) Proteins
- (b) Carbohydrates
- (c) Fats
- (d) Mineral salts
- (e) Vitamins
- (f) Water

3. Where are these chemical compounds found?

- (a) *Proteins* are present in animal food and in certain vegetable foods. The animal proteins are called *first class* because they are more useful in building tissue. Examples are: meat, fish, egg white, fowl, milk and milk products. Vegetable proteins are found in peas, beans, nuts, grains, and in smaller amount in some other vegetable foods.
- (b) *Carbohydrates*, or starch and sugar, are the chief constituents of vegetables and fruits. Examples are potatoes, grains, cereals, fruits, honey, sugar cane, beets, carrots, lettuce, cabbage, etc.
- (c) *Fats* are present in most animal food as fat meats, notably pork, in cream and egg yolk, in butter and cheese. They are also to be found in vegetables and fruits—olives, nuts, avocados, cotton seed, peanuts, corn, coconuts, etc.
- (d) *Mineral salts* are present in most vegetable foods and in many animal foods, milk for example, which is our best source of calcium or lime.
- (e) *Vitamins* are present in most fresh vegetables and fruits, in milk and meats, especially glandular meats like liver. They should not be bought in boxes and bottles unless the doctor advises it. The chief vitamins are found in foods as follows:

Vitamin A—certain fish liver oils, butter, green leafy plants, yellow vegetables and fruits.

Vitamin B₁ (Thiamin)—yeast, rice polishes, cereal grains.

Vitamin G (Riboflavin)—milk, eggs, liver.

Niacin—liver, lean meats, milk, eggs, peanuts, beans, peas, tomatoes.

Pantothenic acid—yeast, liver.

Vitamin C—citrus fruits, beet greens, broccoli, tomatoes.

Vitamin D—certain fish liver oils, eggs, beef and pig liver.

*See also—*Nutrition Guide For Teachers*, Los Angeles City Schools.

- (f) *Water* is present in all foods to the extent of about 80 per cent. It is also abundant in nature in its free state.

4. *What do these compounds do for us?*

- (a) *Proteins* are used to build body cells and to replace or repair worn-out cells. Some of the protein can be burned to produce energy and heat.
- (b) *Carbohydrates* are starches and sugars. They are burned in the body to furnish energy. If more starch or sugar is taken than the body needs, the excess is changed into fat and stored for use by the body later. Sometimes people store more fat than they are ever likely to need, in which case it is a burden and may cause disease.
- (c) *Fats* are also burned to furnish energy. They are more slowly digested than starches. They make food more appetizing. They carry vitamins A, D, E, and K, which dissolve only in fats. They aid in the digestion and assimilation of other foods. In large quantity, or when improperly cooked, they may cause indigestion in some persons. They help to put on weight.
- (d) *Mineral* salts are necessary to normal functioning of the body. Calcium and phosphorus are necessary in building strong bones and teeth. Iron is necessary for good red blood. Iodine is essential for the normal functioning of the thyroid gland. There are many other minerals which are necessary for health, but if we eat foods containing enough calcium, phosphorus, iron and iodine we shall probably receive enough of the others.
- (e) *Vitamins* don't build up cells or furnish energy. They are catalysts, i.e. their presence is necessary to have food digested, absorbed, and assimilated. They must be present if body tissues are to remain sound and healthy and able to resist disease. The chief vitamins that have been isolated and experimented with are:

Vitamin A Prevents xerophthalmia, a disease of the eyes, and night blindness. Needed for growth and reproduction. Essential to integrity of lining membranes of digestive, breathing, and urinary systems.

Vitamin B₁ (Thiamin) Prevents beri-beri and a form of neuritis. Essential for growth and appetite.

Vitamin G (Riboflavin) Needed for normal growth and health. Essential for body cells to carry on their functions. Helps prevent skin and eye diseases.

Vitamin B₆ (Pyridoxin) Stimulates growth.

Niacin Prevents and cures pellagra.

Pantothenic acid Another growth factor.

Vitamin C Prevents scurvy. Essential for normal tooth and bone formation. Prevents gingivitis and aids growth.

Vitamin D Prevents rickets. Helps prevent tooth decay. Promotes normal bone growth.

- (f) *Water* does not furnish energy or build tissue, but forms more than 5/6 of body. Dissolves food, aids digestion, helps elimination and helps regulate heat production and control. Most foods have a high water content (about 80%) but human beings need one to two quarts daily in addition.

5. *Why is milk such an important food?*

- (a) It is the best source of calcium and phosphorus.
- (b) It has most of the vitamins except C.
- (c) It is easily digested and assimilated.
- (d) It contains valuable enzymes.
- (e) It has a good supply of high quality protein.
- (f) It contains easily digested sugar and fat.
- (g) It is the most nearly perfect food.
- (h) It is relatively inexpensive.

NOTE: Every child should have 1 quart daily, every adult 1 pint (with the exception of the occasional individual who is allergic to milk).

Pasteurized or certified milk should always be used. Raw milk should be heated to boiling point before being consumed.

6. *What are the signs of malnutrition?**

Body may be undersized, or show poor development or physical defects.

Usually thin (underweight 10 per cent or more) but may be normal or overweight (fat and flabby).

Muscles small and flabby.

Skin loose and {pale
waxy or
sallow

Subcutaneous fat usually lacking.

Mucous membranes pale.

Hair often rough and without luster.

Dark hollows or blue circles under eyes.

*From *Nutrition and Physical Fitness*—Bogert.

Facial expression {drawn, worried, old
or
animated, but strained

Fatigue posture {head thrust forward
chest narrow and flat
shoulders rounded
abdomen protruding

Irritable, overactive, fatigues easily

or
Phlegmatic, listless, fails to concentrate.

Difficult to get to sleep, or sleeps restlessly.

Subject to {nervous indigestion
constipation

"Finicky" about food.

Susceptible to infections.

Lacks endurance and vigor.

UNIT III

TEETH AND THEIR CARE

Introduction: Dental decay, and the ills that accompany and follow it, is the commonest disease of the American people. About 90% of school children are victims. A perfect set of teeth, even in childhood, is a rarity. In World War II, one out of five of our young men has been rejected for military service because of decayed or missing teeth. Perhaps we don't know all the causes of this unfortunate state of affairs but we do know some of them and what we should do to prevent them. If we put our present knowledge to use we can and will have much better teeth—and incidentally much superior health. The causes of dental decay we know about may be listed as follows:

1. Bad diet and poor health of pregnant mother. Trouble starts before birth.
2. Lack of proper hygiene and feeding of infant.
3. Poor diet and general care in childhood.
4. Certain infectious diseases of childhood.
5. Defective development of teeth, hereditary or congenital.
6. Bad habits (thumb sucking, leaning head on hand, bad pillow habits, etc.).
7. Enlarged tonsils and adenoids.
8. Lack of dental care (toothbrush).
9. Failure to make periodic visits to the dentist.

These causes are all important; some of them operate in some cases, all or many of them in others. Some have passed beyond the control of the school child. Others he can control—perhaps most of them. He can often compensate for earlier neglect and with proper health education he can be taught how to protect his own (future) children's teeth.

1. *Why should children want sound teeth?*

Most children desire good teeth not because of a nebulous thing (to them) called health but because of competitive, social, economic, or psychological reasons. They don't like pain (who does?) and they do enjoy social ap-

proval and popularity with classmates and physical strength and good looks. Fortunately all these desires and their attainment contribute to health. Sound, healthy teeth and gums are essential to health for the following reasons:

- (a) They are one index of good nutrition.
- (b) They cannot siphon poisons into the blood stream or the digestive tract.
- (c) They fulfill their natural function of mastication and help in good digestion, assimilation, and nutrition.
- (d) They help in personality development by promoting facial symmetry, an attractive smile, and lack of self consciousness. This last factor is of greater importance than appears to the superficial observer. Many a career has been hopelessly handicapped by broken, discolored, irregular teeth or a bad breath.

2. *What kinds of foods are necessary for healthy teeth?*

In general, a balanced diet containing sufficient protein, minerals, and vitamins (particularly A, C, and D), and enough calories for growth and energy. Some tough, fibrous foods that need vigorous chewing. Little or no candy. Candy is enemy No. 1 to the teeth. A suggested list of foods:

One egg daily.

One quart of milk daily.

One serving of meat daily (liver, fowl and fish occasionally).

Two cooked vegetables.

Two raw vegetables (salad).

One glass of citrus fruit juice or tomato juice.

One tablespoon of butter or fortified oleo-margarine daily.

Whole wheat bread.

Cod liver oil in winter.

Other foods to satisfy the appetite.

3. *What is the sixth year molar?*

It is the 6th tooth from the center, counting from left to right, and right to left, above and below (4 teeth). They erupt at about the sixth year. They are the first permanent teeth to erupt. They do not displace baby teeth but come in behind the last baby teeth in the developing jaw. They are often mistaken for baby teeth and neglected. They are the most important teeth because they determine the shape of the jaw. They should be inspected by the dentist three times a year.

4. *Are the "baby" or "milk" teeth important?*

It is a common belief that the deciduous teeth are of slight importance because they will be lost anyway. This idea is false because:

- (a) They are needed for mastication and jaw development.
- (b) Their premature loss will cause the permanent teeth to come in irregularly.
- (c) Abscesses or gingivitis may affect adversely the general health.

5. *What are the causes of crooked teeth?*

Malocclusion is very prevalent among children and adults. Straightening of crooked teeth is a tedious, time-consuming, expensive process. It takes time from work, play, and recreation and makes a child self-conscious. Most cases can be prevented.

Causes are:

- (a) Hereditary (not much can be done here).
- (b) Premature loss of temporary teeth.
- (c) Poor diet.
- (d) Bad habits—thumb sucking, tongue sucking, leaning chin on hands, too high a pillow in infancy.
- (e) Enlarged adenoids causing mouth breathing and narrow palate arch.

Results:

- (a) Predisposition to decay, gingivitis, pyorrhoea and stained teeth.
- (b) Premature loss of permanent teeth.

- (c) Adverse effect on appearance, thus lessening social and economic chance for success.
- (d) Interference with social adjustment as result of self-consciousness and inferiority feelings.

6. *Is tooth brushing necessary?*

Dentists advocate brushing the teeth at least twice daily, preferably after breakfast and at bedtime for the following reasons:

- (a) It removes food particles from around and between the teeth, which might cause decay.
- (b) It removes mucin plaques from the teeth which may harbor food and bacteria.
- (c) It tends to prevent staining of teeth.
- (d) It massages the gums and helps keep their circulation normal.
- (e) It helps keep the breath sweet.

Tooth brushing is not a sure preventive of decay but it undoubtedly helps. It should be done correctly. The dentist, dental hygienist, or school nurse can demonstrate the correct method. The dentifrice used does not matter as long as it contains no harsh abrasive. It is the brushing that counts! To be effective tooth-brushing must become a *daily habit*. No tooth paste or powder will whiten teeth or kill germs. It is thought that night time is a more favorable time for tooth decay. Body defenses are then less active and vigilant.

7. *How often should children see the dentist?*

Three times a year. The modern child's dentist inspects the teeth, cleans them, advises concerning care and diet, and fills small cavities before they have made serious inroads. He recommends x-rays for developmental defects—teeth unerupted or impacted or misplaced—any abnormality about the jaws or gums. It pays to have this care—in both health and money.

UNIT IV

EYES AND THEIR CONSERVATION

Introduction: Since most of the knowledge of the world about us comes through the eyes, the conservation of vision is highly important. Only about 10% of the population have absolutely perfect vision but most people have good enough eyesight for practical purposes—if they do not abuse their eyes. In a survey made among 1860 white school children of Washington, D. C., 96.6% of the children were found to have errors of refraction. Thirty-four per cent of the group needed glasses for constant use and another 10% needed them for close work. It appears that errors of refraction are congenital, sometimes hereditary, and that overuse and misuse of the eyes make these defects apparent in most cases.

Teachers have a double responsibility in conserving sight and teaching children to be responsible for sight conservation: they are educating children to be useful citizens and in doing so they are giving them tasks that put a strain on their visual apparatus. Every child who returns to school after recovery from measles should have a careful eye examination. When a child is doing poor work the first thing to think about is his eyes.

1. What are the common errors of refraction?

- (a) Hyperopia — farsightedness (distance from front of eye to retina too short).
- (b) Myopia—nearsightedness (distance too long).
- (c) Astigmatism — irregular curvature of cornea or lens, or both.
- (d) Various combinations of these errors.

2. What should be done for these defects?

There is only one way to relieve the symptoms of eyestrain that often result from these errors of refraction and to enable the child to see clearly, and that is by having the child fitted with correct lenses by an eye specialist. "Eye exercises" will not help these conditions. Glasses do not "weaken" the eyes; they help the patient to see clearly and conserve sight. It is not enough to prescribe glasses. The eyes should be examined periodically thereafter and the child should wear

his glasses. It is the responsibility of the teacher to see that he does.

Children with eye defects should be seated in the lightest part of the room for close work and near the blackboard when they are reading or copying material from it. They should be encouraged to rest their eyes from close work more often. If they have to strain to see with glasses the teacher should refer them for examination: a sight-saving class may be the only solution for their problem. Children who cannot even profit by a sight-saving class are referred to a school for the blind where they are taught Braille.

3. What may cause the teacher to suspect eyestrain?

The Joint Committee on Health Problems in Education lists the following behavior characteristics:

- (a) Child attempts to brush away blur.
- (b) Blinks continually while reading.
- (c) Cries frequently.
- (d) Has fits of temper.
- (e) Holds the book far away from the face when reading.
- (f) Holds the book close to eyes when reading, or keeps face close to page.
- (g) Holds body tense when looking at distant objects.
- (h) Is inattentive during reading lesson.
- (i) Is inattentive during wall-chart, map, or blackboard lesson.
- (j) Is inattentive during class discussion of field trip or visit to museum.
- (k) Is irritable over work.
- (l) Reads but brief period without stopping.
- (m) Reads when he should be at play.
- (n) Rubs eyes frequently.
- (o) Screws up face when reading.
- (p) Screws up face when looking at distant objects.
- (q) Shuts—or covers—one eye when reading.

(r) Thrusts head forward in an effort to see distant objects.

(s) Tilts head to one side when reading.

4. *What are binocular vision, fusion, depth perception, muscle imbalance?*

Binocular single vision is the ability to see one image clearly with two eyes, instead of a separate image for each eye. The power to combine the two images into one is called *fusion*; it is a function of the brain, and is usually attained by 5 or 6 years. It may be delayed in some children and cause them to have difficulty in seeing. It can be improved with training. The telebinocular is an instrument used for measuring this function. *Depth perception* is the ability to see objects at different distances from the eye in their true perspective. It is associated with binocular vision.

Muscle imbalance is a common cause of strabismus or cross-eye. One muscle or group of muscles exerts a stronger pull on the eyeball than others and one eye is directed inward, outward, up or down. The image seen by this eye is suppressed because it causes blurring of vision and the eye gradually loses its sight. Errors of refraction may be causes of cross-eye. Glasses and eye muscle exercises, may be tried under the oculist's direction. If they fail, operation should be resorted to. The child will not outgrow this defect.

5. *What are symptoms of eye strain?*

- (a) Child cannot read 20/20 line on Snellen chart at 20 feet (shortsightedness).
- (b) Child reads 20/10 or 20/15 line at 20 feet (farsightedness).
- (c) Child complains of headaches after reading, writing, or seeing movies.
- (d) The eyes "water" when used for close work.
- (e) Child complains of sensation of sand in the eyes.
- (f) Light may cause the eyes to smart.
- (g) The lids may be red and crusted.
- (h) There may be frequent sties.

6. *What is pink eye?*

In common parlance, pink eye has come to mean any inflammation of the eye in which there is redness of eyeball and/or inside of lids, with or without pus formation. It may be due to infection with one of several vari-

eties of bacteria. The child should be excluded from school and placed under medical supervision.

7. *What is the relation of diet to the eye and its function?*

Night blindness, or the inability of the eye to see clearly in dim light, is the earliest symptom of acute vitamin A deficiency. Complete deprivation of this vitamin results in a serious eye disease resulting in blindness. There is no evidence that lack of vitamins has any direct effect on refractive errors except as it lowers the general health and vitality. If the diet is deficient in vitamins, eye diseases and infections are more likely to occur and be severe.

8. *What is the relation of light to the eye?*

No animal, not even a cat, can see in complete darkness. Light is essential for vision and the greater the intensity of light the better and quicker is seeing accomplished, provided there is no glare. Light intensity is measured in foot candles. For comfortable reading at least 15 foot candles are necessary. For some types of fine work 30 to 100 foot candle may be necessary. Under a shade tree on a sunny day there will be 1000 foot candles of light. Here there is no discomfort in reading—in fact reading is done with ease and comfort—because the light is diffused and there is no glare. The foot candle meter is a small instrument that measures accurately the intensity of light. The eye is a poor judge of this. What are the important points to remember about classroom lighting?

- (a) There should be at least 15 foot candles of light in all parts of the room.
- (b) Natural light is better for the eyes than artificial.
- (c) There should be no obstructions to natural light, such as buildings and trees.
- (d) There should be no glare in the room. White smooth surfaces outside and inside promote glare.
- (e) Shades should be adjusted at all times to promote adequate diffused light without glare. Venetian blinds are to be preferred.
- (f) Artificial illumination should be adequate and protected by shades to prevent glare. Indirect lighting is most satisfactory.

- (g) Inside wall surfaces should be dull buff or cream. Ceilings may be white or ivory to reflect more light. Tables and desks should have a dull finish.

9. *What are bad habits to avoid in use of eyes?*

- (a) Reading in bed.
- (b) Reading while lying on stomach.
- (c) Holding book at anything but a right angle to line of vision.
- (d) Reading with light in front of eyes.
- (e) Reading for long periods without resting the eyes, especially by artificial illumination.

10. What is the meaning of *Oculist? Ophthalmologist? Optician? Optometrist?*

- (a) *Oculist*—A physician (M.D.) who specializes in diseases of the eye and errors of refraction.
- (b) *Ophthalmologist*—Same as oculist.
- (c) *Optician*—A skilled workman who grinds lenses according to the oculist's prescription.
- (d) *Optometrist*—A person (Opt.D.) who has had training in refraction and is licensed to refract the eyes and prescribe and sell glasses. He is not a physician, is not trained in the diagnosis or treatment of disease, and is not allowed to use drugs.

UNIT V

THE EAR AND THE PRESERVATION OF HEARING

Introduction: Next to poor sight, hearing impairment is the most serious educational handicap a child may have. It may vary all the way from total deafness to such a light loss that it can be detected only by the audiometer. Many children with quite serious impairment are not recognized as hard-of-hearing; they are lightly dismissed as being dull in mind when they are really dull in hearing. Many hard-of-hearing children learn, consciously or unconsciously, to read lips, thus partially compensating for their hearing defect; this may fool the teacher and make it more difficult for her to spot the child who needs medical and educational attention.

Most hearing defects can be prevented! Health education is needed to train children to help conserve their hearing and to prevent deafness. Avoidance of colds and the infections of childhood, adequate care in such cases, and proper attention to diseased tonsils and adenoids will prevent much hearing impairment. Every child who returns to school after recovery from measles or scarlet fever, should have an audiometer test. Children with a chronic discharge from the ear should be examined by the physician for decision as to whether they should be excluded from school.

1. *How may the teacher detect the hard-of-hearing child?*

A hard of hearing child may show one or more of the following characteristics:

- (a) Inattention and lack of interest in conversation around him, or abnormally concentrated attention on the individual speaking.
- (b) Failure to answer questions or failure to answer correctly.
- (c) Repeatedly asking, "What did you say?"
- (d) Tilting of head to one side to bring best ear nearer speaker.
- (e) Mistakes in work which depends on oral directions such as spelling and arithmetic, while work depending on written directions may be well done.
- (f) Flat, nasal, or monotonous voice.
- (g) Bewildered expression when directions are given to class.
- (h) Restlessness and evidence of nerve fatigue; chronic fatigue from the constant effort to hear.
- (i) Incorrect pronunciation of familiar words.
- (j) Tendency to withdraw from the group in play and become a spectator or read instead of entering into the game.
- (k) May become a behavior problem in compensation for feeling of inferiority.
- (l) If the teacher is in doubt the whispered voice test at 20 feet in a quiet room may be tried, testing one ear at a time. This test will help to rule out marked hearing loss.

2. *What are the causes of deafness or hard-of-hearing?*

- (a) Hereditary (deaf mutes, syphilis, otosclerosis, etc.)
- (b) Diseased tonsils and adenoids, causing infection of the Eustachian tubes.
- (c) Ear infections (otitis media, mastoiditis, etc.).
- (d) Dietary deficiency—Vitamin B complex.
- (e) Complications of infections, as measles, scarlet fever, influenza, meningitis, etc.)
- (f) Impacted wax in the ear canal (should be removed only by a physician).
- (g) Foreign body in the ear (erasers, beads, cotton plugs, insects, beans, peas, etc., entering accidentally or poked in for fun or experiment, and then forgotten.)
- (h) Temporary deafness may be caused by colds.
- (i) Improper blowing of nose (blowing with one or both nostrils closed, which may force mucus into Eustachian tube).

3. *What are possible results of hard-of-hearing?*

- (a) Retardation or backwardness.
- (b) Inferiority complex or behavior problem.
- (c) Shyness, timidity, shut-in-complex.

- (d) Poor posture, shuffling gait, tilting of head to one side to hear better when one ear is involved.
- (e) Flat, nasal, monotonous voice.
- (f) In middle ear deafness—more common in children—their voice sounds abnormally loud to them so they often speak in very low tones. In nerve deafness (commoner in older patients) their voice sounds faint or low to them and they often speak in very loud tones.

4. *What can be done medically for hard-of-hearing children?*

- (a) Complete and careful physical examination.
- (b) Audiometer testing to determine type and extent of hearing loss.
- (c) Examination of ears by an otologist (ear specialist).
- (d) Carrying out the otologist's recommendations: operation, medical treatment, tonsillectomy, as the case may require.

5. *What can be done educationally?*

This involves educating the child to conserve his remaining hearing and giving him general health education, and also making it possible to acquire an education in spite of his handicap.

- (a) Lip-reading classes for advanced cases.
- (b) Seating the child in front, near the teacher, and in such a position that he sees the teacher's face clearly. The room should be well lighted.
- (c) Teaching the child to take precautions against taking cold, staying at home when a cold first appears, and having proper medical attention.
- (d) Speaking slowly and distinctly and making sure the child understands what is said.

6. *What is the correct psychological treatment?*

Hard-of-hearing children need sympathetic understanding, but should be helped to avoid self-pity and resentment.

- (a) Encourage the child to accept his handicap and make the most of it.
- (b) Do not accept excuses based on his handicap when everything possible has been done for him.
- (c) Encourage participation in normal activities.
- (d) Do not coddle the child or make him feel "different" from the group.
- (e) Teach normal children to understand the deafened child's handicap and treat him with sympathy and consideration.

7. *What is the relation of noise to hearing?*

Loud or excessive noise is harmful in two ways: if long continued it may cause deafness, and it causes nerve fatigue. It is important that noise in the classroom be kept to a minimum. Nervous, jittery, jumpy children like to make noise. This is because they are overstimulated, and the greater their nerve fatigue the more noise they make. Noise also contributes to fatigue, nervous exhaustion, and nervous breakdown in teachers.

The acoustics of the classroom are highly important. The walls, ceilings, and floor should be built of materials that will absorb about 90% of the noise. They should be insulated against outside noise. A room with very hard surfaces may reflect 90% of the noise instead of absorbing it. The constant reverberation may be very fatiguing. Such rooms may be treated to partially overcome this defect. This treatment need not be expensive. Drapes, pictures, furnishings, wall paper, etc., help to absorb sound and minimize or do away with reverberations or echoes.

The problem of noise in schools is an important one and deserves more attention than it has so far received.

UNIT VI

THE HEART AND ITS CARE

Introduction: The heart is one of the most remarkable parts of the human body. It attracts more interest and attention than any other organ. Very few people can get excited about their livers or their spleens; but mention the heart and they are all attention. Too often people with organic heart disease cannot be induced to curtail their activities. Just as often people with sound hearts are convinced that they have "weak hearts" and worry unnecessarily. Children with normal hearts and those with crippled hearts need sound instruction and advice.

1. *What is the function of the heart?*

The heart is a hollow organ with thick muscular walls, two upper chambers which act as reception rooms for the blood, and two lower chambers which pump the blood to the lungs and to all parts of the body. The chambers are separated by doors (valves) which keep the blood going in the right direction. The purpose of the heart is to supply the body with oxygenated blood for nourishment and to pump venous blood to the lungs for a new supply of oxygen. The heart initiates its own beat which it maintains regularly throughout life. The heart beats faster and harder when exertion or excitement calls for an increased blood supply. A healthy heart will stand a lot of abuse, but if a heart has been crippled or weakened by infection, its reserve power is lowered. The best treatment for a damaged heart is *rest*.

2. *What are the causes of heart disease in children?*

There are two principal causes. The majority of cases are caused by rheumatic fever, a serious disease, more common in temperate climates, in children who are living in overcrowded, insanitary conditions with poor diets and inadequate care. It attacks the whole system, but chiefly the joints, the heart, and the nervous system.

The other chief cause is congenital. The child is born with an abnormal heart or abnormal

blood vessels. The causes, then, may be listed as:

- (a) Rheumatic fever.
- (b) Congenital conditions.
- (c) Other diseases: diphtheria, scarlet fever, influenza, pneumonia, tonsillitis, etc.
- (d) Hyperthyroidism — may poison the heart and cause it to beat abnormally fast.
- (e) Focal infections: abscessed teeth, middle ear infection, sinus infection, etc.

3. *What are the effects of these conditions on the heart?*

Rheumatic fever and other infections cause inflammation of the heart. This gradually subsides, leaving scarring of valves, weakened and enlarged heart muscle and sometimes injury to the nervous tissue of the heart. The pericardium, or sac covering the heart, also may be injured, thickened, and scarred. The heart "compensates" for these injuries by getting larger so as to maintain a normal circulation.

Children born with crippled hearts may have defective valves, abnormal openings between heart chambers so that arterial and venous blood mix, and/or vessel abnormalities.

4. *What are signs and symptoms of heart disorders?*

There may be none; the teacher must depend on the doctor's report. In some cases the child shows:

- (a) Underdevelopment, physical retardation.
- (b) Pallor, poor posture: flat chest, round shoulders, "pigeon breast."
- (c) Chronic lassitude, disinclination to exertion, chronic fatigue.
- (d) Blueness of lips and fingernails, sometimes even of skin, clubbed fingers (knob-like ends) in congenital conditions.

- (e) In severe cases, strong pulsation of vessels of neck and shortness of breath on mild exertion.
- (f) Symptoms such as fainting, pain in chest, rapid heart beat, palpitation are not, as a rule, indicative of heart disease but of conditions outside the heart, which may reflexly and temporarily disturb the heart's action.

5. *How may heart disease be prevented?*

To prevent heart disease we must strive to prevent its causes.

- (a) Prevent rheumatic fever or minimize its ravages by adequate medical care, good nutrition, good housing, and hygiene.
- (b) Prevent other infections by prompt exclusion from school of children with colds and other infections.
- (c) Teach the value of immunization against diphtheria and scarlet fever.

6: *What should be done to conserve heart strength in cardiac children?*

- (a) Promptly report suspected heart cases to school physician or nurse.
- (b) Carry out the school program recommended by the school physician or Heart Clinic.

- (c) Reduce stair climbing to a minimum. Avoid harsh discipline; call on pupil to recite first to avoid nerve tension; do not allow child to hurry; do not allow pupil to be unduly conscious of his defect.

7. *Remember the following facts.*

- (a) Organic heart conditions are seldom outgrown.
- (b) Children with organic heart trouble should be watched carefully and examined frequently.
- (c) Reinfection is more serious than over-exertion.
- (d) Every child able to be in school needs some physical recreation, but this should be prescribed by a physician.
- (e) There are many thousands of adults and children who have acquired the fixed belief that they have bad hearts, when in fact their hearts are normal. A cardiac neurosis is probably the most serious type of mental disability, even though functional, because it seriously handicaps effort. Every such case should have the benefit of the advice of a heart specialist.

Teachers may obtain health education films, posters, exhibits, leaflets, study outlines and bibliographies from the Los Angeles Heart Association. Write to Marjorie Edwards, Director, Division of Heart Diseases, Los Angeles Tuberculosis and Health Association, 122 E. 7th Street.

UNIT VII

FACTORS INFLUENCING GROWTH AND DEVELOPMENT

Introduction: Growth and development are continuous but the rate varies widely at different ages and in different children. No two children are alike in the rate at which they grow and develop, any more than they are alike in physical make-up and personality. It is necessary for teachers to understand the laws of growth and the factors that promote or retard growth and development in order that they may provide optimal conditions for these physiological processes. Learning facility also depends on the stage at which mental development has arrived: the teacher must adapt method and subject matter to the physical and mental level of the child. The teacher should be prepared to explain to a child, who feels inferior because he is behind in physical development, the true significance of this difference. The unevenness of growth and development in different children often causes competitive effort to be unfair to some and to give others an unfair advantage. It may be an argument for discouraging competition except with one's own record.

1. *What are the significant facts of growth?*

- (a) Growth, as distinct from development, is an increase in size and weight of an individual.
- (b) Development is an increase in complexity of structure and consequent function.
- (c) Growth is most pronounced just before birth and again at puberty.
- (d) There is a difference in rate of growth between boys and girls. In the early school years boys on the average are slightly taller and heavier than girls. From 10 to 14 girls are taller and heavier. From 14 or 15 years on, the boys again take the lead. Girls mature earlier than boys.
- (e) Puberty is the age at which the sex organs begin to function. Its occurrence varies between the ages of 13 and 16 in boys and 12 to 14 in girls. These are averages. Racial differences may

cause puberty to develop earlier or later, e.g. 10 to 16 in girls.

- (f) Adolescence is the period of growth between puberty and adulthood or full physical and mental maturity. It usually embraces the years from 15 to 26 in the male and from 13 to 22 in the female.
- (g) Growth in weight is accelerated in the fall and retarded in the spring.
- (h) Growth does not parallel development. At birth the brain is only $\frac{1}{4}$ its adult size, at 7 it is $\frac{9}{10}$ ths of its full size. But mental *development* is much slower. The brain continues its development until 40 or later.
- (i) Because of immaturity there are marked hygienic differences between children and adults. For example, there is greater heat loss in proportion to weight, therefore more oxygen consumption, therefore more food needed. The child has less resistance to infection than the adult, a greater tendency to anemia because of fewer red corpuscles, a greater tendency to middle ear infection because of the shorter and straighter Eustachian tube and a more marked tendency to nearsightedness because of the change in the shape of the eye socket concomitant with growth of the skull.
- (j) There is considerable variation in rate of growth of different organs. In the first decade complete growth of the brain and eyes takes place; in the second decade the heart, spleen, thymus gland and muscles attain full growth; in the third decade the thyroid, the pituitary, the adrenals, the lungs, liver, testes, and ovaries reach full growth and maturity.
- (k) A child should gain from 4 to 9 pounds per year. Loss of weight should be investigated.

2. *What factors influence growth and development?*

- (a) Heredity. The rate of growth and size at maturity are family and racial characteristics, subject however to many modifications by other internal and external factors.
- (b) The glands of internal secretion. These are the thymus, thyroid, pituitary, parathyroids, adrenals, testes and ovaries. The thymus, which has to do with growth, shrinks and disappears at puberty. The thyroid and pituitary regulate growth and metabolism. The pituitary and adrenals also influence sex, childbirth, and lactation. The testes and ovaries determine secondary sex characteristics. Any disturbance of any of these glands profoundly affects growth and development. Hormones have been prepared from these glands which are used in treatment, which should be carried out by a physician skilled in their use.
- (c) Nutrition. Japanese children born in California average 3 inches taller than Japanese children born in Japan. Chinese in Hawaii average 1.1 inches taller than Chinese in China. Southern California children are taller for their age than Eastern children. No doubt diet plays a significant part in these differences. Numerous experiments on rats and other animals have proved the relationship between growth and development and diet. A poor diet means retarded growth and failure of normal development.
- (d) Prenatal influences, particularly the hygiene and diet of the mother may be a factor in some cases.
- (e) Disease. A child who has had rheumatic heart disease may have poor physical development. The same is true of tuberculosis, bronchial asthma, poliomyelitis, and many other diseases. Children who have had chronic infections for years may have retarded growth and development.
- (f) Health habits. The child with poor health habits with respect to diet, fresh air, sunshine, rest, cleanliness, etc., may be "puny" and stunted in growth.
- (g) Social and economic conditions. The children of the poor, as a rule, do not attain the physical development of those economically more fortunate.

UNIT VIII

GOOD POSTURE AND ITS PROMOTION

Introduction: Good body mechanics has a very definite influence on health and in addition has aesthetic, economic, and social values which make it a primary objective in the total educational program. Continuous effort and supervision are necessary to safeguard this precious heritage of every boy and girl.

Good posture is the animated and habitual body carriage of an individual whose anatomical parts are so aligned and balanced that the whole functions with ease and efficiency and in a manner that is pleasing to the eye. Good body mechanics and good posture are synonymous.

Although corrective physical education is programmed for all grade levels, the preventive phase of the program in which the classroom teacher has important responsibilities is extremely vital. This and the early detection of faults cannot be overemphasized.

1. *What can classroom teachers do to promote good posture?*

- (a) Keep room temperature constant at 68 to 70 degrees with maximum amount of air circulation. At beginning of periods, after recess and changing of class, it is advisable that an abundance of fresh air be admitted even though the temperature drops a point or two at the start of the period.
- (b) Assign pupils to desks which are so adjusted that both feet can be placed squarely on the floor without undue pressure on the back of the thighs. Good lighting is very important and pupils with impaired sight or defective hearing should be seated in accordance with their best interests.
- (c) Encourage good individual and class posture by frequent attention and checking. Good posture can and should be a habit if activities promoting it are properly developed and maintained. In the beginning, a control period of 5 to 10 minutes should be devoted to such a lesson. Immediately after this period a few moments devoted to relaxation,

stretching, or several breathing exercises are sufficient to overcome strain and fatigue. The controlled periods can be gradually lengthened as pupils develop the good posture habit.

- (d) Avoid class fatigue, both mental and physical, by constant attention to this symptom. Changes in the activity or procedure is usually all that is needed to overcome the condition. Chronic fatigue of one or more pupils should be called to the attention of the school physician. Daily rest periods have proved a satisfactory program of control in many of these cases.
- (e) Instruct pupils how to stand properly as follows: Both feet should be pointed straight forward and about 2 to 3 inches apart so that the weight is on the balls and outer sides; the knees should be straight but relaxed; the abdominal wall taut; the chin slightly in; the shoulders balanced but not unduly pulled back and the arms hanging naturally at the sides.
- (f) In sitting, the "fit" of the seat is important as described before. The upper part of the body, or trunk, should be carried as in the standing position. The chief point is that the pupils should sit back in their seats as far as possible, and when it is necessary to bend forward for writing or reading, the bend should be made from the hips instead of the upper back.
- (g) Walking should be done with the erect carriage and with ease and grace. The parts should correspond in relationship to that of the standing position. Feet should be pointed straight ahead and the weight carried on the outside of the feet. An excellent exercise for pupils of all age and grade levels is to have them walk to the front of the room for recitation. This affords an opportunity for teaching the correct walking and standing positions.

2. *What are deviations from the normal posture?*

- (a) *Weak feet*—usually indicated by a tendency to walk with the feet pointing out. Also in the majority of cases the heel cord is turned outward.
- (b) *Leg torsion*—often associated with weak feet and easily recognized when the knee caps “point” inward.
- (c) *Abnormal pelvic tilt*—accompanied by prominent buttocks, a sway back, and protruding abdomen.
- (d) *Kyphosis*—an exaggerated curved upper back or dorsal region accompanied by flat chest and a compensating sway back.
- (e) *Lordosis* (or sway back)—the abnormal lumbar curve in which the pelvis, abdomen, and upper back present compensatory conditions.
- (f) *Scoliosis*—is that condition in which a lateral curvature is present. There are several types of scoliosis depending upon the convexity of the curve.

The teacher should call all these conditions to the attention of the school physician, nurse, or corrective physical education teacher.

Daily application of the principles of good body mechanics in connection with the observance of good health habits in nutrition, rest, exercise, and recreation is the best safeguard for the good posture which every boy and girl should have.

3. *What may teachers do about their own posture?*

Radiant health and good body mechanics (good posture) are characteristics which

contribute to the total learning situation. Example, in addition to experiences, is a potent motivator.

Suggestions:

- (a) Develop and maintain the well known health rules relating to diet, rest, and relaxation, exercise and recreation.
- (b) Stand, walk, and sit “tall” with lower abdominal wall tight.
- (c) Use shoes that have ample toe room in order that toes may function (grip and propel) in walking. Avoid daily use of high heels in order that weight bearing may be normal.
- (d) Tensing exercises for individual muscles or muscle groups for the development of segmental control and muscle tonus can be indulged in many times a day at the desk or in other classroom situations without pupil observation.
- (e) A special teacher exercise recommendation: (With low heels or without shoes—10 times—two or three times a day.) With heels as far apart as possible and big toes touching or within one inch of each other (extreme pigeon toe position)—*Rise on toes as high as possible*—back to starting position—then, *rise on heels* (at all times with feet in the extreme pigeon toe position). In order to hold balance at first one should hold on to chair or table corner with one hand.
- (f) The teacher may obtain further information about this whole problem of adult posture from the corrective physical education teacher.

UNIT IX

PERSONAL HYGIENE

Exercise, Sunshine, and Fresh Air

Introduction: Many years ago educational authorities recognized the fact that training the body was just as important as training the mind, that mind and body were interrelated, component parts of the personality. A sound mind demanded a sound body. Thus physical education was born and became as compulsory as "book learning." Drills, calisthenics, games, and sports were prescribed for boys and girls. Gradually, in many localities, formal drills were replaced by programs of free play and games. Athletics become the privilege of the best physical specimens who could "make the team" and the less favored were assigned the role of spectators.

Modern all-out war, which demands physical fitness, emphasizes skill, strength, and stamina for everybody. This means training and toughening the body. The cultural values are largely left to take care of themselves. The children of Athens and Sparta spent more than half their time in games and sports, and conditioning exercises in the open air—Athens for culture and Sparta for war. "Setting-up" or conditioning exercises have proved their value in physical education and are being reemphasized in many school situations.

1. *What are the values of physical exercises, games and sports?*

- (a) They are indispensable to optimum health.
- (b) They help build strength and endurance.
- (c) They promote agility and economy of effort.
- (d) They increase muscular and mental coordination.
- (e) They make for good sportsmanship.
- (f) They bring out qualities of leadership.
- (g) They help socialize children.
- (h) They teach cooperation and teamwork.

2. *What are the values of sunshine and fresh air?*

Exercise in the open air is doubly valuable. Sunshine is a tonic far superior to any bottled variety. The values of exercise in fresh air and sunshine are:

- (a) Increased oxygen intake increases the anabolic phase of metabolism.
- (b) Catabolism is stimulated.
- (c) Fresh air in motion has a tonic action on the skin.
- (d) The heart is stimulated and refreshed.
- (e) The circulation is quickened.
- (f) The mental faculties are stimulated.
- (g) Fatigue products are eliminated.
- (h) The sun's rays act on the skin to produce vitamin D which is a necessity for health.
- (i) Fresh air and sunshine promote a cheerful mental outlook. Man is still an animal and he thrives poorly if all his time is spent in artificial caves. At least three hours daily should be devoted by all children to play, exercise, and recreation in the open air and sunshine.

Sleep and Rest

Introduction: The subject of rest for children is highly important in this age of speed, high-tension living and high pressure education. Much more is expected of the child today than was the case a few generations ago. The trend toward city life, industrialization, fast transportation, quick communication, the automobile, telephone, radio, sound movies, automatic devices—all bring increments of noise and contribute to nerve tension. At this time the "war of nerves" as part of the World War is aggravating the situation enormously. Children, therefore, need adequate rest and sleep to counteract these influences.

Teachers and parents should recognize these facts and realize that the delicate nervous or-

ganizations of children are not geared to the adult world they are forced to live in. They should make provision for restful slumber and provide time for relaxation. They should teach children how to relax. Habits of rest and sleep can be substituted for habits of overactivity, not only for the nervous and undernourished, but for all children. Such efforts will make for a more stable future adult population.

1. *Definition:* Rest is a condition of more or less inactivity of body and mind. Sleep is a condition of temporary unconsciousness for rest and repair of nerve cells and body cells. Rest is a relative condition.

2. *Forms of rest:*

- (a) Bed rest (recumbent).
- (b) Bed rest reclining or sitting.
- (c) Rest in chair.
- (d) Rest, standing, after stooping, running or walking.
- (e) Rest of a fractured bone in splint.
- (f) Rest of a tuberculous lung by collapse.

3. *What are the comparative rest needs of children and adults?*

- (a) Children need more rest and sleep than adults because of rapid growth.
- (b) Children need a quieter environment for rest because of greater instability of nervous system.

4. *How much sleep do children need?*

- (a) Ages 5-7 need 12 hours.
Ages 8-12 need 11 hours.
Ages 13-15 need 10 hours.
- (b) Children who are nervous, under-nourished or overactive, need an afternoon nap.
- (c) All children up to six years should have an afternoon nap.
- (d) Children with inferior constitutions, malnutrition or certain diseases, such as childhood tuberculosis or chorea, may require additional hours of sleep.

5. *What bad habits are aggravated by insufficient rest and sleep?*

- (a) Nail biting.
- (b) Bed wetting.
- (c) Eye blinking.
- (d) Foot tapping.

- (e) Various tics.
- (f) Irritability of disposition.
- (g) Temper tantrums.
- (h) Poor appetite and fussy eating.

6. *What conditions are necessary for good sleep and rest?*

- (a) A room by oneself.
- (b) A comfortable bed (not too hard or too soft); at least 39 inches wide.
- (c) Enough, but not too much, cover.
- (d) Quiet.
- (e) Good ventilation. No drafts.
- (f) No heat in room.
- (g) A regular time for retiring and getting up.
- (h) No strenuous play or excitement for at least one hour before retiring.

Clothing

1. *What are the purposes of clothing?*

- (a) Protection from extreme heat or cold.
- (b) Protection from sudden temperature changes.
- (c) Absorption of body perspiration.
- (d) Protection against rain, sleet, snow, etc.
- (e) Protection against disease, chilling, colds, pneumonia, tuberculosis, etc.
- (f) Protection against extreme sun exposure.
- (g) To make the person more attractive and socially acceptable.
- (h) To protect the soles of the feet against bruising, athlete's foot, etc.
- (i) To help preserve the arch of the foot when walking on hard surfaces.

2. *What are some effects of improper clothing?*

- (a) Overheating of body (too much clothing).
- (b) Chilling of body (too little clothing).
- (c) Causing poor posture (shoulder straps, braces, etc., pulling on shoulders).
- (d) Too tight clothing, causing constriction of circulation, not giving lungs sufficient room for proper breathing, etc.
- (e) Unclean inner clothing causing skin irritations and disease.
- (f) Improper shoes causing foot deformities.

3. *What are the health rules for clothing?*

- (a) Underclothes should be washed frequently.
- (b) Tight bands, garters, etc., should be avoided.
- (c) Sweaters and coats should be removed indoors.
- (d) Rubbers and raincoats should be worn in wet weather and should be removed indoors.
- (e) Trousers should be suspended from the waist to avoid pull on shoulders.
- (f) In young children summer clothing should be of loosely woven cotton mesh; in winter cotton and wool or silk and wool mixtures.
- (g) Stockings and socks should be large enough to avoid cramping the toes, not large enough to wrinkle, should be free from holes and should be changed daily.

4. *What kind of shoes should children wear?*

- (a) Leather, with leather soles, rubber heels.
- (b) Large enough so there is one-half inch between end of great toe and front of shoe (standing).
- (c) Wide enough to avoid toe cramping.
- (d) Should provide good support of instep.
- (e) Should have straight inner edge and broad toe.
- (f) Should be laced about ankle.
- (g) Should have low heels.
- (h) Sneakers are not recommended for walking on hard surfaces.

Cleanliness and Elimination

Introduction: Cleanliness has a bearing on health, not only from the standpoint of disease prevention through the avoidance of germs, but because of its psychological and social value. Cleanliness of person through adequate bathing, of the teeth through oral hygiene, of the hair and nails, of the nasal passages and of the intestinal tract, are matters of habit that can be taught. Cleanliness and neatness of the clothing and avoidance of creating an unclean environment likewise depend on the acquisition of health habits.

Teachers should consider such health habits to be as important as the making of good grades in intellectual activities. The health-minded teacher can find numerous ways in the classroom program to reinforce such habits.

1. *What points should be stressed in cleanliness of person?*

- (a) Baths: types, number, frequency, purposes, value.
- (b) Care of hair: brushing, shampooing, cutting, etc.
- (c) Care of nails: manicuring, cleaning, avoiding nail-biting, etc.
- (d) Care of teeth: brushing, care of tooth brush, etc.
- (e) Refraining from putting fingers, pencils, etc., in mouth.

2. *What points should be stressed in cleanliness of clothing?*

- (a) Laundering of underclothes, stockings, etc.
- (b) Frequency of change of same.
- (c) Neatness and suitability of clothing.

3. *What should be done about cleanliness of environment?*

- (a) Avoid spitting in public places.
- (b) Avoid throwing refuse on floors, streets or playgrounds.

4. *How may good elimination be promoted?*

The American people spend millions of dollars annually on drugs, bran breads and cereals and remedies to prevent or cure constipation—most of them unnecessary and harmful. Children should be taught and trained in such habits that this condition would be rare. Constipation can be avoided or relieved by:

- (a) Eating sufficient bulk in the diet.
- (b) Taking enough raw vegetables and fruits.
- (c) Drinking enough water.
- (d) Taking adequate exercise.
- (e) Having regular elimination habits.
- (f) Avoiding laxatives except in emergencies or illness.
- (g) Consulting a physician if these measures fail.

UNIT X

PUBLIC HEALTH AGENCIES AND THEIR WORK

Introduction: There is a vast amount of confusion in the public mind about the duties, powers, and functions of the various public health agencies, local, state, and national, and the voluntary agencies engaged in public health and welfare activities. This confusion makes cooperation with and support of these agencies difficult and hampers them in their work to the extent that they fail to secure this public understanding and support. Many people fail to take advantage of the services offered by these agencies simply because they do not know those services are available, or because they do not know which agency to contact, or the correct avenue of approach to the agency they wish to communicate with.

The schools have an excellent opportunity—perhaps the best opportunity—to teach pupils the facts about the work these various agencies have done, their outstanding achievements, and their objectives in health service and health education for the future progress and well-being of the American people. Such knowledge will improve the relations between the public and their health agencies, result in better understanding of their objectives, and increased support of their activities.

1. *What, in general, are the concerns of public health agencies?*

- (a) For a long time, in our individualistic society, Public Health was concerned only or chiefly with health measures that protected the mass of society, such as sanitation, prevention of epidemics, regulations for safe water, milk, food, etc.
- (b) In recent years, with the trend toward collectivism, there has arisen a growing demand that Public Health concern itself with the welfare of the individual as well as the group—which means the cure of disease as well as its prevention.
- (c) Some public health authorities predict that this trend will continue and intensify until the people, through their government, will assume responsibility for the health of all individuals, regardless of their economic status—just as the

people now assume responsibility for universal education.

2. *What kinds of agencies carry on public health work?*

- (a) Official agencies supported and operated by the Federal, state, or local government.
- (b) Voluntary agencies, depending on donations, endowments, fees, subscriptions, or contracts.

3. *What responsibilities has the Federal Government assumed for the health of the people?*

The Federal Government enforces those laws passed by Congress designed to promote the health and welfare of the people of the Nation which the states cannot enforce, such as international and interstate movements of people, goods, etc. "The State is the sovereign power, and not the Federal Government. Each state is autonomous in all the matters relating to public health within its own borders." The chief health functions of the Federal Government, therefore are:

- (a) Under its power to tax it can and does regulate the sale and use of narcotic drugs. The Pure Food and Drug Act protects us against being defrauded through or poisoned by the foods and drugs we buy. Inspectors visit factories and collect random samples and chemists examine them to see that no violations are made.
- (b) Under its power to provide for the general defense it protects the health of soldiers and sailors.
- (c) Under its power to regulate commerce it takes steps to prevent the spread of disease through the transportation of food and diseased persons from one state to another and from foreign countries into the United States.
- (d) Recently passed legislation (1939) gives the Federal Government power to lend money to the states for health activities. This power carries with it some directive power as to how the money shall be spent.

- (e) Through its various agencies, especially the United States Public Health Service, the Federal Government carries on important and valuable research, particularly in epidemiology, or the control of communicable diseases.

4. *What are the chief health agencies of the Federal Government?*

- (a) The U. S. Public Health Service, now a division of the Social Security Agency. Its head is a Surgeon General, (Dr. Thos. Parran, 1936-.....). It prevents spread of disease from state to state, does research, carries on health demonstrations, and coordinates state and local health activities.
- (b) Department of Commerce: Bureau of the Census: mortality and birth statistics.
- (c) Department of Labor: Women's Bureau (health of women in industry), Children's Bureau.
- (d) Department of Agriculture: food and dairy products, drugs. Under this department, the Bureau of Animal Industry guarantees that all meat and poultry used in interstate commerce are slaughtered and packed under hygienic conditions. Any carcass bearing the blue stamp: "U. S. Gov't. Inspected and Passed," is clean and safe for human consumption.

The United States Public Health Service has valuable publications, one of the most important of which is *Public Health Reports*, a weekly journal, \$2.50 per year. The Department also prepares and distributes printed material, exhibits, charts, motion pictures, and radio programs.

For information or health literature regarding Federal health activities write to Superintendent of Documents, Washington, D. C.

5. *What are the Health agencies of the State?*

In addition to the Public Health work done by the Federal bodies, health departments are maintained by the State and its cities and counties (the last two are the local Health Departments).

There is a much closer working relationship between the State and the local departments than between the Federal and the State Department.

The State is supreme in government in our democratic system. It has authority over individuals, counties, and municipalities. It can delegate powers and functions to them and take them away if they fail to exercise them in the interest of the public health and safety.

- (a) The governor is responsible for the health activities of the state.
- (b) He may select a State Board, or Council, of Health, and in conjunction with the latter, appoint the executive, State Health Officer.
- (c) The functions of the State Health Department are:
 - (1) Through a series of health regulations, which have the force of laws, it sets up minimum standards for hygiene and sanitation to be observed throughout the State. These regulations are embodied and published as the Health Code. Its study by the teacher is highly profitable.
 - (2) It inspects, encourages and aids the local health departments in maintaining these standards.
 - (3) In addition it compiles the vital statistics sent in by the local departments, maintains a central laboratory, and does a vast amount of health education.

For information and literature write to the State Department of Public Health, Sacramento, California.

6. *What are functions of city and county (local) health departments?*

The most immediate interest of the public at large is in the local health departments for it is here that the health officials come into direct contact with the people, to restrain them from anti-health acts and to render direct personal service where that is necessary. Their work is organized into several divisions, such as:

- (a) *Vital Statistics*
Certificates of all deaths and births are issued and sent to the State Department of Health for tabulation and study.
- (b) *Communicable Disease Control*
A continuous stream of cards come in from doctors, reporting the nature and location of new cases of contagious disease. On the basis of these daily re-

ports the department deploys its forces. In questionable cases the diagnosis is confirmed, and quarantine is established when indicated. Also patients are released only on proof of freedom from communicability.

Free clinics for diagnosis and treatment of venereal disease are operated—over 100 of these in California.

Tuberculosis cases are sought out and hospitalized, and contacts examined.

(c) *Child Hygiene*

Prenatal and maternity work, infant, and preschool hygiene, school hygiene, etc.

(d) *Sanitary Inspection*

The Sanitary inspectors are constantly at work among us reporting on the sanitary conditions of restaurants, bakeries and food markets, and collecting random samples of milk, food, and drinking water for analysis.

(e) *Public Health Laboratory*

Useful to almost every other division.

(f) A local Health district establishes its own health ordinances. They may set up more strict standards than the State Health Code calls for, but never more lenient ones.

Teachers may obtain further information about the Los Angeles City Health Department by calling at or writing to City Health Officer, 116 West Temple Street (telephone—MIdichigan 5211) ; and the Los Angeles County Health Department at 808 North Spring Street (telephone—MUtual 9211).

7. *What are the chief voluntary health agencies and their functions?*

These organizations are grouped under the National Health Council and have their address at 1790 Broadway, New York City. They are:

- (a) The American Social Hygiene Association.
- (b) The National Tuberculosis Association.
- (c) The American Society for the Control of Cancer.
- (d) The National Council for Mental Hygiene.
- (e) The American Posture League.
- (f) The National Safety Council.
- (g) The American Heart Association.

(h) The National Association for the Prevention of Blindness.

(i) The Women's Foundation for Health.

Other non-governmental health agencies (not a complete list) are:

(a) The American Medical Association.

(b) The American Dental Association.

(c) The American Red Cross (semi-official).

(d) The National Foundation for Infantile Paralysis, Inc.

(e) The Georgia Warm Springs Foundation for Infantile Paralysis.

(f) The Boy Scouts of America.

(g) The Girl Scouts of America.

(h) The Camp Fire Girls.

(i) The Playground and Recreation Association of America.

(j) The National Congress of Parents and Teachers.

(k) The Commonwealth Fund.

(l) The Elizabeth McCormick Memorial Fund.

(m) The Metropolitan Life Insurance Company.

(n) The National Dairy Council.

(o) The United Fruit Company.

(p) The Rockefeller Foundation.

(q) The Russell Sage Foundation.

A complete list of these agencies with their respective addresses is given in *Ways to Community Health* by Dr. Ira Hiscock—pp. 263-266. The values of these voluntary agencies are that they supplement the work of official agencies, where budgets are low (a chronic condition), work on new projects and thus add to the sum total of health knowledge, provide new and fruitful fields of endeavor for the official agencies, and do a vast amount of good through their health education efforts. Many of these voluntary health, relief, and welfare agencies have state and local branches in the various communities, for facilitation of their work.

The teacher will find useful for further study the following:

Public Health Administration in the United States—Smillie—The Macmillan Co., N. Y., 1940.

An Introduction to Public Health—Mustard, The Macmillan Co., N. Y., 1938.

Community Hygiene, Smiley & Gould, The Macmillan Co., N. Y., 1941.

UNIT XI

MENTAL HYGIENE OF CHILDREN

Introduction: While the causes of most mental maladjustments are very complex, it is true that most of these disorders originate in childhood and its experiences. Heredity does play a role, but not as large a one as we used to think. The experiences after birth, including illnesses, parental influences and patterns, school and community contacts, etc.—one or all of these are deciding factors in determining the child's future behavior, successful or unsuccessful. Hence, childhood is the strategic time to bring to bear any preventive and constructive influences. Since a large portion of every child's waking time is spent in school, every teacher can readily see how great a part she may play in the formation of that child's personality and behavior. Thus her responsibility is a great one, especially when we learn that one child in twenty will at some time in his life require institutional care for some type of mental abnormality.

The teacher who has acquainted herself with the significant facts of mental hygiene can, by wise training and direction of her pupils, do much to aid in the solution of this grave problem. In the field of correction there is an acute need for more psychiatrists and psychiatric social workers.

1. *What are the causes of behavior problems?*

- (a) Hereditary, e.g., unstable nervous system, certain mental diseases, mental deficiency.
- (b) Experience, training and environment, e.g., parental discord, inadequate discipline, broken home, both parents working, poverty, destructive parental patterns, spoiling, etc.
- (c) Physical defects:
 - (1) Those that interfere directly with the learning process, e.g., poor vision and hearing.
 - (2) Those that cause fatigue and lack of endurance, e.g., malnutrition, infected tonsils, heart trouble, etc.

- (3) Those that cause a child to look different from his peers, e.g., deformities, such as extreme overweight, underweight, nearsightedness, shortness—often designated irreverently by children as “fatties”, “skinnies”, “four-eyes”, “runts”, etc.
- (4) Those that interfere with athletic competition, e.g., cripples, heart cases, paralysis, spastics, etc.
- (5) Those damages to the nervous system leading to marked distractibility, short attention span, flightiness, “jitterbug”, hyperactivity, etc.
- (d) Inadequacy of school influences, e.g., lack of proper curriculum, teacher's personality, lack of adequate outlets, etc.

2. *What are personality traits suggestive of need for attention?*

- (a) Shyness and lack of self-confidence.
- (b) Day-dreaming (excessive).
- (c) Withdrawal from group activities.
- (d) Fears, timidity and excessive modesty.
- (e) Excessive self-assertion and pugnacity.
- (f) Crying and whining.
- (g) Temper tantrums.
- (h) Obstinacy and negativism.
- (i) Suspiciousness and “picked-on” complex.

3. *What types of asocial and antisocial behavior require study?*

- (a) Lying.
- (b) Stealing.
- (c) Destructiveness.
- (d) Truancy and running away.
- (e) Cruelty.
- (f) Excessive interest in sex.

4. *What are some undesirable habits?*

- (a) Speech defects — stammering, lisping, etc.
- (b) Nail-biting, thumbsucking, etc.
- (c) Tics and habit spasms.
- (d) Enuresis and self-wetting.
- (e) Feeding and eating problems.

5. *What are the best corrective measures?*

- (a) Adequate study and understanding of problem:
 - (1) History — family, health, experiences, play, outlets, neighborhood, school, etc.
 - (2) Adequate physical examination by one who understands structure and function and their relationship, including nervous and endocrine systems.
 - (3) Determination of level and quality of intelligence and its manner of functioning.
 - (4) Psychiatric examination—looking through the child's eyes at itself, its problems and the world about it.
- (b) Interpretation of above findings and working out a comprehensive program based thereon.
- (c) Carrying this out through parents, teachers, social agencies and other community resources.

6. *What is the teacher's role in mental hygiene?*

- (a) Maintain your own poise and self-control so as to set a wholesome example in these important attributes. Avoid haste, fussiness, angry flare-ups, sarcasm, anxiety, etc.

- (b) Try to understand each pupil as an individual with his particular needs. All pupils need: (1) recognition as an individual in his own right, (2) warm response to his search for affection, (3) security in his relationships with you as a trusted friend.
- (c) Be consistent in your attitudes. Do not prohibit one day what you have permitted the day before. Let your pupils know where you stand on any point and then stick to it.
- (d) Create opportunities for some sort of success for even the poorest of your pupils. Praise for effort as well as success. Constant and continual failure discourages and paralyzes further effort.
- (e) Honesty is best learned through example. Thorough frankness and candor on your part will inculcate these qualities in your pupils.
- (f) Avoid jumping to conclusions. Do not hastily pin labels on certain types, e.g., endocrine or glandular disorder, mental retardation, etc. When in doubt seek expert advice.
- (g) Teach them by precept and example to face difficulty rather than evade or side-step it.
- (h) Let undesirable behavior bring its own unpleasant consequences if possible. Group disapproval works better than a teacher's punishment. Shame or ridicule coming from you destroys the very pupil-teacher relationship you are trying to build up and upon which the educative process depends.
- (i) Don't forget that there are those willing and able to help you when you need it: principals, counsellors, nurses and doctors.

UNIT XII

SOCIAL HYGIENE

Introduction: Social hygiene is another name for sex hygiene. It means a study of the health facts surrounding the subject of birth, growth, mating, marriage and reproduction. It is, therefore, basic to the art of healthful and successful living. For a clear understanding of these subjects, pupils should be taught the anatomy and physiology of the reproductive organs and the social implications of the phenomena of reproduction. As with all other special topics, sex hygiene should be integrated and correlated with all other health instruction. Teachers should be thoroughly prepared in factual information and well adjusted attitude before teaching social hygiene. Even if they undertake no formal instruction they should be prepared to treat serious questions without evasion or embarrassment. Consciously or unconsciously they are teaching by their attitudes even though no word on the subject ever passes their lips.

1. *What are the physical facts of social hygiene?*

- (a) Anatomy and physiology of reproductive organs.
- (b) Growth and development of the embryo.
- (c) Prenatal influences.
- (d) Genetic and hereditary factors.
- (e) Menstruation and its problems.
- (f) Seminal emissions.
- (g) Masturbation.
- (h) Promiscuous sex relations and their consequences: venereal diseases, illegitimacy, social disgrace, psychic trauma, etc.

2. *What are the motivating forces in teaching these facts?*

- (a) The most powerful is the sex urge—the compulsion of nature to reproduce.
- (b) The desire to prepare for a happy, well adjusted home life with healthy children. This should be the constantly

recurring theme in all social hygiene teaching. It is the chief reason for such instruction.

- (c) The desire for enlightenment on subjects too often made mysterious, forbidden, or entwined with a sense of guilt or shame.
- (d) The desire to understand and know how to get along with members of the opposite sex.
- (e) The desire to properly evaluate and interpret the vague longings and developing interests and urges of adolescence.

3. *When and where should sex instruction be given?*

- (a) It should be taught in school at the very beginning of the child's school career, by example, attitude, simple nature discussions, integrated in classroom work.
- (b) It should continue in elementary school, developing in scope and complexity as the child's knowledge and understanding develop.
- (c) It should be supplemented by scientific background in high school in science and senior problems courses. No phase of this many-sided subject should be neglected.
- (d) In no phase of health teaching can the school physician render more valuable assistance.
- (e) It is important to obtain the cooperation of the home in this instruction.

The teacher should consult:

High Schools & Sex Education—Gruenberg. United States Public Health Service—obtained from Superintendent of Documents, Washington, D. C. Price 20 cents.

Life Problems—Los Angeles City Schools, Health Section.

Life Problems — A Supplement—Los Angeles City Schools, Health Section.

UNIT XIII

SCHOOL HYGIENE

Noise and Fatigue

Introduction: As a factor in child health a healthful school environment probably is as important as adequate medical care and health instruction. Noise ranks high as a disturber of health and morale. When noise reaches a certain intensity it is annoying and distracting, causing nerve and body fatigue. When it reaches 130 decibels it is literally painful. Studies in factories and observations of airplane pilots show that long continued loud noise causes deafness. For an environment conducive to good mental hygiene and health and efficiency, unnecessary noise in school should be eliminated.

1. *What are some of the causes of noise in school?*

- (a) Faulty construction of building producing echoes and reverberations.
- (b) Slamming doors, squeaky hinges, noisy catches.
- (c) Jangling bells.
- (d) Playground noises—shouting, laughing, yelling, using apparatus adjacent to classroom.
- (e) Street noises—autos, signals, horns, bells, conversation, etc.
- (f) Unnecessary talking in classroom.
- (g) Talking in too loud tones by teacher or pupils.
- (h) Running and heavy walking in rooms and corridors.
- (i) Noisy equipment or noisy use of it in classroom.

2. *What can be done to help eliminate noise in school?*

- (a) Check acoustics of classrooms and find out if there are echoes or reverberations. Report same and ask for engineering study and rehabilitation.
- (b) See that all doors close quietly. Check squeaking hinges, noisy catches, door stoppers that need adjusting, etc.

- (c) Maintain quiet, poise, and tranquillity in classroom. Avoid hurry, excitement, harsh discipline, confusion, loud talking and laughing, unnecessary coming and going on part of pupils.
- (d) Promote quiet in the whole school by proper supervision over pupils while changing classes, going on errands, etc.
- (e) Investigate noises from outside building and determine if remedial measures can be instituted.
- (f) If certain pupils seem tense and keyed-up much of the time and constitute a disturbing element, see if home environment is to blame. The cause may be lack of sufficient rest and sleep, maladjustments, or lack of security.
- (g) The more noise that can be eliminated and the quieter the atmosphere can be made the easier it will be for pupils to restrain themselves and the less likely they will be to be loud voiced and boisterous. One instinctively lowers his voice in the quiet of a hospital, a library, or a church.

Sanitation, Ventilation, Lighting, Seating

It is difficult to teach children good health habits if the school violates health rules in respect to providing facilities for practicing those habits. If we teach the values of fresh air and healthful temperature and then allow the classroom to become overheated, with foul stagnant air, we shall nullify much of our teaching. Similarly, if we teach conservation of vision and shut out the daylight or allow inadequate artificial illumination, we shall not accomplish much in our health instruction. If we emphasize good posture and expect pupils to sit in seats too large or too small, or seats and desks that fail to encourage good posture, we need not be surprised if good posture fails to materialize. If we preach cleanliness and allow inadequate handwashing facilities, cleanliness will remain an abstraction.

1. *Good school ventilation is important for health because it*

- (a) Makes for greater comfort and pleasure.
- (b) Keeps resistance to disease (colds, tuberculosis, etc.,) higher.
- (c) Makes possible more and better quality of work.

Overheated classrooms are a health menace.

2. *How is good ventilation secured?*

- (a) By keeping windows open at bottom and top and hall transoms open.
- (b) By keeping room temperature at 68 to 70 degrees F.
- (c) By avoiding direct drafts.
- (d) By avoiding sudden changes of temperature.

3. *What is good natural lighting of a school-room?*

- (a) Plenty of light at side of room farthest from window.
- (b) Windows at right or left of pupils' desks. No cross lights.
- (c) Light adequate in amount, but no glare.
- (d) No outside obstructions to light.
Use the light meter to measure light intensity.

4. *What is good artificial lighting in classroom and at home?*

Classroom:

- (a) Diffused light (no unshaded or unfrosted bulbs).
- (b) Indirect lighting (either reflected from below or covered by a translucent globe).
- (c) Enough light all over the room (at least 15 foot candles).
- (d) Absence of glare (unshaded, improperly placed lights).

At home:

- (a) Floor or table lamp with light source not less than 18 inches from work.
- (b) No less than 100 watt bulb (frosted).

- (c) Light coming over either shoulder from floor lamp or from one side with table lamp.
- (d) Whole room lighted to avoid contrast and eyestrain.

5. *What are effects of bad classroom lighting?*

- (a) Eyestrain, making glasses necessary.
- (b) Nervous and mental fatigue, headaches, irritability.
- (c) Lowering of general health, and resistance to disease.
- (d) Poor school work.

6. *What is school sanitation?*

- (a) Clean, attractive buildings and rooms.
- (b) Good and adequate water supply. Modern drinking fountains.
- (c) Clean playgrounds, not too dusty, well drained.
- (d) Clean cafeterias, inspected food, inspected food handlers, no pests, adequate protection of food by refrigeration, etc.
- (e) Clean, well equipped, screened toilets in adequate number.
- (f) Good plumbing, sewage and garbage disposal.

7. *The importance of good sanitation. Good sanitation means:*

- (a) Freedom from diseases spread by pests, germ-laden air, etc.
- (b) Freedom from infections and digestive disturbances caused by spoiled or contaminated food.
- (c) Cheerfulness induced by an attractive school environment.

8. *What can pupils and teachers do to help maintain good sanitation?*

- (a) Report all sanitary defects observed.
- (b) Keep buildings and playgrounds clean by refraining from throwing refuse and discarded food around.
- (c) Put refuse in proper place (garbage containers).
- (d) Encourage these habits in others.

UNIT XIV

DISEASE PREVENTION

Introduction: Communicable disease flourishes best where people are crowded together in confined quarters; space, fresh air, and sunshine are its implacable enemies. Schools, therefore, offer opportunities for those diseases to spread, and eternal vigilance is required to prevent or minimize their depredations. In the Home Guard are many sentries: teachers, doctors, nurses, health officers, parents; and if any of the sentries are asleep at their posts the invading legions may swarm in and capture the citadel—Child Health. A few will slip by in spite of every precaution and overwhelm weakly defended positions.

These diseases not only defeat health but steal a part of the child's education because they account for almost all the enforced absences from school attendance. This is a substantial waste. Time and effort spent in conserving health and educational time are well spent.

1. *What are the methods of preventing disease in school?*

- (a) Prompt exclusion of children with communicable conditions *early* in their course.
- (b) Sufficient time spent in convalescence to recover completely.
- (c) Careful readmission so as to allow no child to return who is likely to endanger his own health or that of others.
- (d) Vaccination and immunization of children against smallpox, diphtheria, and whooping cough.
- (e) Keeping the health and resistance of all children at a high level, by attention to health habits, nutrition, removable physical defects, and the causes of chronic fatigue.
- (f) Tuberculosis surveys with proper follow-up of cases and contacts.
- (g) A sound, continuous, effective program of health education from kindergarten to high school and beyond.

2. *What are the defenses against these diseases?*

- (a) Immunity, natural and acquired, is of first importance.

- (b) Bodily health and vigor.
- (c) Good nutrition.
- (d) Absence of chronic fatigue.
- (e) A healthful school and home environment.
- (f) Good health habits, relating to cleanliness, exercise, rest, fresh air, tooth brushing, elimination, eating, use of handkerchief, avoiding unnecessary contacts of person, clothing, eating utensils, and food, proper and hygienic clothing, avoiding chilling from wet clothing, having proper ventilation and temperature in classroom and at home, etc.

3. *What is immunity and its significance?*

Immunity is the ability of the body to resist infectious disease. It may be relative for some diseases, absolute for others, and non-existent for still others. Disease is caused by minute or microscopic or ultramicroscopic (seen only by the electron microscope) parasites that prey on human beings. They are classed as bacteria, protozoa, fungi, and viruses. Bacteria are microscopic one-celled plants; protozoa are microscopic one-celled animals; fungi are microscopic many-celled plants; viruses have not been classified as yet but seem to have both organic (animal) and inorganic (chemical) characteristics—they cause 20 or 30 serious diseases. Nothing much was known about any of the motley crew until Pasteur (1822-1895) convinced a skeptical world that bacteria and not devils were the cause of infections. Immunity depends on many factors, discovered by Pasteur, Koch, Von Behring, Metchnikoff and many other famous workers.

- (a) Natural immunity (hereditary, racial, specific for certain diseases).
- (b) Acquired immunity—obtained by having a non-fatal or mild attack of a disease, or by injection into the body of substances that provide immunity or stimulate the body defenses to provide their own immunity.

- (c) Body defenses that provide immunity are leucocytes (white blood corpuscles) that "eat" bacteria or destroy them and carry them away, and certain chemical substances called antibodies that neutralize the bacteria or their poisons and render them inert.
- (d) Since the vitamins have become so well known and popular there has arisen a widespread impression that vitamins will prevent infection. This is not true. It is true that a diet containing too few vitamins will in time weaken the body tissues, especially those lining the nose, throat, bronchi, etc., so that they do not resist invasion by bacteria so well. A person on a vitamin-deficient diet, for example, is more susceptible to colds and may have them more often and more severely than a person on a good diet and in robust health. But vitamins do not increase the number of leucocytes or the amount or potency of antibody material circulating in the blood.

4. *What are the diseases for which we have protection?*

- (a) *Smallpox*. Vaccination a few months after birth, then every seven years, confers immunity. Vaccination is safe. It causes a very mild condition called cowpox or vaccinia which protects against the more virulent disease, smallpox. It may be argued that, since we have not had smallpox in this community of late years, vaccination is unnecessary. This is dangerous reasoning. We have thousands of unprotected children and adults and under unsettled conditions, with large shiftings of population, an epidemic is possible at any time.
- (b) *Diphtheria*. Antitoxin cures if given early. Toxoid prevents. It should be given in infancy and repeated at school age if the Schick test is positive. Toxoid is safe and harmless and causes no discomfort.
- (c) *Tuberculosis*. We have no sure preventive for this disease as we have for diphtheria and smallpox but with the Mantoux test and the X-ray we can detect the disease in the stage at which little or no harm has been done. The Mantoux or tuberculin test consists of injection into the skin of a chemical

(not tubercle bacilli or any of their products) which shows by a red spot on the arm whether tuberculosis "germs" have entered the body and caused an allergic reaction. The X-ray shows whether these "germs" have caused disease. All children, especially of high school and college age, should have this test. Remember, in the early stage *tuberculosis has no symptoms* and cannot be discovered except by these tests.

- (d) *Whooping cough*. Recent investigations into clinical results obtained with the latest whooping cough vaccines indicate that their use does prevent many cases of the disease and renders others less severe. Public Health authorities have not yet given these vaccines as thorough a trial as they have diphtheria toxoid. They should be recommended for use in each individual case for prevention and treatment.
- (e) *Measles and scarlet fever* can be prevented or modified by convalescent serum (blood serum, containing antibodies, of a person who has had the disease).

5. *What are the venereal diseases?*

- (a) *Gonorrhoea* — caused by a bacterium called the gonococcus. Usually acquired through sexual relations but may be acquired by contact with contaminated articles. It causes inflammation of the urethra (passage from the bladder) with pus discharge. It may involve all the organs of generation in both sexes, causing both men and women to be sterile. It is a frequent cause of pelvic operations in women and blindness in babies. One per cent silver nitrate dropped into the baby's eyes at birth will prevent gonorrhoeal ophthalmia.
- (b) *Syphilis*—caused by a corkscrew shaped organism called the spirochete. It is usually acquired through sexual relations but may be contracted by kissing and other contacts. It causes the chancre, a sore which heals and, later, serious symptoms due to invasion of any or all of the important bodily structures. It may cause abortion, stillbirth, or congenital syphilis in offspring.

There is no sure preventive for either of these diseases, except avoidance of

promiscuous sexual relations. Prostitution is the source of nearly all venereal disease. If and to the extent that society succeeds in banishing prostitution, the venereal diseases will be brought under control. In spite of this handicap the medical profession and public health agencies are lowering the number of untreated cases of these diseases.

6. *What are the common skin diseases?*

- (a) *Athletes foot*. There are several varieties. It is very difficult to cure. A well established case should be treated by a physician. Strict cleanliness will do much to prevent it. Tubs containing a chlorine antiseptic are believed to be effective in school gyms and public bath houses.
- (b) *Impetigo* is common in run-down children with poor hygiene. It is contagious and should be excluded from school. It usually occurs about the mouth and nose and may resemble a neglected and overgrown coldsore.
- (c) *Ringworm* is common on the body and scalp of school children. It is contagious and excludable. The scalp infec-

tion is very difficult to cure. Stubborn cases should be treated by a physician.

- (d) *Scabies* is caused by a tiny, almost invisible itch mite which burrows and lays its eggs in the skin. It is highly contagious and excludable and can be cured by hot baths and sulphur ointment applied under careful directions for several nights.
- (e) *Pediculosis* (lice, head, body, and pubic region). "It is no crime to have it but a disgrace to keep it" because it can be cured by energetic measures. There are several drugs that will kill the insects and their eggs. Clothing must be sterilized in the case of every variety but the head louse, which stays on the scalp. The pubic louse, or "crab," sometimes migrates to the hair on the chest, under the armpits, and the eyelashes, but stays away from the scalp.

There are many other infections about which children should be informed in upper science courses. The teacher will find of interest a small booklet called *Communicable Diseases* by A. M. Stimson, Medical Director, United States Public Health Service; Pub. No. 30, for sale by the Superintendent of Documents, Washington, D. C., price 25 cents.

UNIT XV

ALCOHOL, TOBACCO, NARCOTICS, PATENT MEDICINES

Introduction: It is a strange commentary on human nature that man perverts useful things into instruments of disease, degradation, and destruction. Of the four classes of drugs forming the subject of this unit alcohol has caused more suffering, misery, and death than all others put together. It is the one public health problem about which the least is being done. It is a complex question with social, psychological, pharmacological, and medical aspects. Since 1937 this enigma has been studied by The Research Council on Problems of Alcohol, which promotes research and which has published its findings since 1940 in the *Quarterly Journal of Studies on Alcohol*.

The ultimate solution of this baffling problem, of course, must come through education, which so far has been ineffective, as shown by the fact that moderate drinking still enjoys social approval and even immoderate drinking is often looked upon with indulgence or receives only mild reproof from many social institutions and from most individuals except social workers and reformers. In the celluloid drama a drinking bout appears to be the approved solution for the hero's love problems and economic difficulties; the inference being that the fumes of alcohol, contrary to all scientific evidence, clear the brain and sharpen the judgment. Two factors seem to promote alcoholism: (1) social sanction and ease of access to the drug, (2) susceptibility of the individual to occasional or habitual excessive use because of hereditary, constitutional, psychological, or social inadequacy. The magnitude of the problem is highlighted by the fact that at least 200,000 persons in the United States are slaves of alcohol and that 1,000,000 more are in danger of the same fate. According to the National Safety Council one-third of all fatal traffic accidents involve a driver or a pedestrian under the influence of liquor. Census reports show that in 1937 alcohol caused more deaths than any one of 31 serious infectious diseases. The number of instances in which alcohol is indirectly responsible for disease and death is beyond computation.

The moral and legal responsibility of the schools in teaching children the facts about alcohol and training them to shun it as a beverage is unquestioned. The fact that there are potent counteracting influences in the home, on the street, in the movies, and in the printed word makes this instruction more difficult but does not excuse neglect or a perfunctory assumption of this responsibility on the part of teachers.

1. *What are the chief facts about alcohol?*

- (a) "It is a good thing outside the body."
- (b) Inside the body it is a poisonous narcotic.
- (c) In small doses it does little harm. The larger the dose and the more often continued the more harm it does.
- (d) It is a habit-forming drug. Continued use may result in addiction and continued excessive use always does. An addict is a slave to his drug and must take more and more of it to obtain the desired result. This is the most insidious danger of alcohol. It takes on the average 7 to 10 years of steady drinking to make an addict. It takes only one drink, however, to start a person on the trail which may lead to addiction.
- (e) Some people are more likely to become alcoholics than others. Nobody knows in advance whether he is one of those who can take it or leave it alone—so why tempt fate?
- (f) Alcohol does most of its harm to the vital organs: brain, heart, kidneys, liver, nerves. It is absorbed directly into the blood and at first dulls or paralyzes the higher centers of the brain, later causing insensibility and, if the dose is large enough, death. Long continued use causes degenerative changes in brain, heart, kidneys, and liver.
- (g) Even in small amounts alcohol lessens coordination, judgment, and sensibility. It slows up reaction time, making

precise work more difficult and prompt action in emergencies less possible. One drink may make an unsafe driver.

- (h) It tends to impair moral values and lowers social responsibility. For more detailed discussion of the pharmacologic and sociologic effects of alcohol on man see any good standard text on alcohol.*

2. *What are useful motivations in studying about alcohol?*

- (a) The desire to be popular and socially acceptable. The intoxicated person may be amusing but he certainly does not inspire respect or confidence. Many young people drink because most of their friends drink or because it is the socially acceptable thing for their "gang" or "crowd" or "set" to do. The non-drinker exposes himself or herself to ridicule or a defense mechanism-inspired contempt. Teaching here must stress the building of character shown by a determination to lead the crowd sanely instead of following it meekly in a mistaken course.
- (b) The desire to be successful. Alcohol has not contributed to success in life to any measurable extent and it has wrecked many a career.
- (c) The desire to be strong. It can easily be demonstrated that alcohol decreases muscular strength and endurance.
- (d) The desire to be beautiful. Alcohol in excess plays havoc with beauty of form and feature. It causes a red, bloated, blotched skin and bloodshot, watery eyes. It coarsens the features.
- (e) The desire to have money for worthwhile purposes. Drinking is an expensive habit. Alcoholic liquors are expensive in themselves and doubly expensive in the losses caused by their immoderate use.
- (f) The desire to be socially responsible, to have an appreciation of a safe, wholesome, prosperous community. This might be called an acquired or educated desire. It is at least a highly de-

sirable outcome of education concerning the effects of alcohol. It means that pupils will be willing and anxious to support public education, research, and legislation designed to solve this problem.

3. *How should teaching about alcohol NOT be approached?*

- (a) It is not a moral or religious question but a medical and public health problem.
- (b) It should not be singled out as a topic by itself, unrelated to other health topics, but integrated naturally according to interest and need.
- (c) The bad effects of alcohol should not be exaggerated. Such teaching defeats its purpose and is unnecessary, as the facts are black enough.
- (d) The corroding effects of alcohol on human tissues should be relegated to the background or discussed naturally in life science courses where there is scientific relevancy. Until scientific curiosity is aroused children are not interested in pathological anatomy.
- (e) The fear motive should not be stressed. We fear most that which we know least about. When the cloak of mystery is removed we lose unwholesome fear and assume the more wholesome protective armor of caution. If children know the true facts about alcohol they are more likely to deal intelligently with its dangers.

Our laxity in the matter of protecting the public against this dangerous drug is astounding. We have safeguards against fire, flood, cocaine, morphine, marihuana and even relatively less harmful drugs such as phenacetin and veronal; yet we permit the sale of the potent poison, alcohol, to any adult who can pay the price regardless of his mental age, his emotional maturity, or his sobriety of judgment.

In 1941 a committee of the American Medical Association proposed that the provisions of the Federal Food, Drug, and Cosmetic Act be applied to the labeling of whiskey, pointing out that "people who are afraid to take two aspirins at once for a cold do not hesitate to take six highballs in a row." They recommend the following very conservative label for whiskey:

**Alcohol: One Man's Meat*—Stricker & Chambers—Macmillan, 1938. *Alcohol and Man*, Haven Emerson. *Alcohol in Moderation and Excess*—Waddell, 3rd ed. rev.—Byrd, 1941.

DIRECTIONS FOR USE

Use moderately and not on successive days. Eat well while drinking. If necessary supplement food with vitamin tablets while drinking.

WARNING

May be habit-forming. Not for use by children. If this beverage is indulged in immoderately it may cause intoxication (drunkenness), later neuralgia and paralysis (neuritis), and serious mental derangement, such as delirium tremens and other curable and incurable mental diseases, as well as kidney and liver damage.

So far, not even this mild measure has been adopted.

TOBACCO

Introduction: It is a common practice for parents, teachers, and physicians to advise young people to leave tobacco alone until they are 21, and then use their judgment about taking up smoking. This is good advice because tobacco is definitely more harmful to children and adolescents than to adults, and the habitual and excessive use of the weed is less likely to occur if the habit has not been formed early in life. The prevalence of cigarette smoking among adolescents shows that this advice is not always heeded. Something should be done about it—something more effective than is being done. Many exact studies have been undertaken to determine the effects of tobacco smoking on adults and these are the only data we have to guide us in appraising this problem.

1. What are the effects of tobacco?

- (a) In a small minority of smokers it causes or aggravates a disease, *thromboangiitis obliterans*, in which the capillary vessels in the extremities are narrowed, resulting in ulceration and gangrene.
- (b) In susceptible individuals it aggravates the disease or symptom complex known as *angina pectoris* or coronary artery disease. The coronary arteries supply nourishment to the heart muscle.
- (c) In some individuals it irritates the breathing passages and predisposes to infections of the respiratory organs.
- (d) In all persons it causes a more rapid heart beat, a rise in the blood pressure, and stimulates the adrenal glands to take blood sugar from the liver and the

muscles and deposit it in the blood. This is thought to account for the pepped-up feeling following a smoke.

- (e) In certain persons it irritates the digestive tract and results in loss of appetite and weight reduction.
- (f) It lessens coordination and skill in fine operations of hand and eye.
- (g) It aggravates and may be a causative factor in patients with ulcer of the stomach and bowel.
- (h) Studies by Raymond Pearl have shown that moderate smokers do not live as long as non-smokers, and heavy smokers have shorter lives than moderate smokers.
- (i) Tobacco has a sedative effect on the nervous system. "It rests one when he is tired, but it tires one when he is rested."
- (j) It is habit forming but does not create such slavish addiction as alcohol or morphine.

2. Why do young people smoke?

- (a) Many start smoking because they see so many adults doing it, therefore think it is a manly or womanly habit.
- (b) Posters and advertisements of handsome youths and maidens blowing romantic smoke rings do not make the battle for abstinence any easier.
- (c) The example of classmates and friends is difficult to hold out against for social reasons.
- (d) After beginning the use of tobacco it quickly becomes a habit.
- (e) The bad effects are insidious, slow to appear, may not become evident for years; the adolescent finds it difficult to take seriously the advice of teachers and parents not to indulge. Absolute prohibition is almost impossible to enforce.

3. What should we do about the problem?

- (a) Teach the facts.
- (b) Show that smoking is not "manly" or "womanly."
- (c) Enlist parental cooperation.
- (d) Suggest that the money the boy or girl would spend or formerly spent for cigarettes might be saved for a more useful purpose.

- (e) Set a good example.
- (f) Appeal to desire for athletic prowess by citing the fact that no coach allows athletes in training to smoke.
- (g) Do not exaggerate the bad effects or make smoking a moral issue.
- (h) Bring the subject in naturally in discussion of drugs, or disease prevention, or athletics.

NARCOTIC DRUGS AND "PATENT" MEDICINES

Introduction: Lack of space prevents more than the briefest mention of these important agents. Fortunately they are kept under much more rigid control by the public health authorities and the public has much better safeguards against their use and abuse than is the case with alcohol. Physicians have long sought a substitute for morphine, one of the most useful drugs in the pharmacopoeia, but carrying always the danger of addiction. A recent synthetic drug, non-habit forming, seems to be the answer to the doctors' prayer. Time will tell whether it will prove effective.

"Patent" medicines are drug mixtures that may be useful or harmless in themselves but when used for self-medication may be dangerous—chiefly because they temporarily relieve symptoms, do not get at the cause of the trouble and cause postponement of medical care—often until such care is too late. Some proprietary concoctions are harmful or habit-forming and many are completely worthless. Pupils should be warned against their use. No medicine should be taken except on the advice of a physician. Even aspirin may be dangerous to some persons and is always harmful in overdose.

OPIUM AND ITS DERIVATIVES, COCAINE AND MARIHUANA, ETC.

- (a) Morphine, codeine, heroin, cocaine, etc. indispensable in medicine.
- (b) Deadly poisons in hands of laity.
- (c) Always cause addiction.
- (d) Lead to disease, crime and death.
- (e) Their sale punishable by law.
- (f) Known purveyors or addicts should be reported to public health authorities and the police.

UNIT XVI

HEALTH CO-ORDINATION

It is not possible to have a smoothly functioning health program without a plan. Nor can a plan be effectively carried out without organization. Many schools have found that the most effective organization for integrating health service and health education in the school curriculum is the health committee with a health coordinator in charge. In the summers of 1940 and 1941 a group interested in health coordination, administration, and teaching worked on this problem under the leadership of Dr. C. Morley Sellery, Director of the Health Service Section. The following outline is the result of their thinking and discussion based on practical experience and constructive planning.

I. *Selection of the health co-ordinator*

- A. The co-ordinator may be either a man or woman teacher, depending on which will more adequately meet the needs of the local situation. In view of the special health problems of girls when a man is the co-ordinator, a woman teacher should be selected as an assistant or vice-co-ordinator, in which case, time should be allowed for these special activities.
- B. The work of the health co-ordinator in the average junior or senior high school when the opportunities and demands of the position are considered is, indeed, a full-time job. Such a position will pay the school and the community rich rewards in terms of a more effectual program of health education and health service. If the immediate appointment of a full time health co-ordinator is impractical on account of insufficient teaching staff, a minimum of three periods should be arranged for this work.
- C. The person for this important office may be selected by the principal in consultation with the school health committee or on the basis of information or recommendation from the Health Service Section. In choosing a health co-ordinator, the following qualifications and credentials should be considered:
 1. General elementary, general secondary, or health co-ordination credential.

2. Special background, interest, and aptitude in the health field.
3. Full-time employee of the school, well known, and highly regarded by conferees.
4. Well adjusted personality, exemplifying the following attributes: health, diplomacy, tact, co-operation, sympathy, social concern, and sense of humor.

II. *Duties of the health co-ordinator*

- A. To confer with the principal, school physician, and nurse regarding the school health program.
- B. To stimulate formation of a health committee and to provide administrative leadership in the execution of the policies of the health committee in the individual school.
- C. To stimulate healthful attitudes and practices in the lives of pupils and staff by promoting a positive health program.
- D. To confer with pupils regarding their health problems and adjustments and arrange conferences with appropriate persons.
- E. To keep the various members of the school staff informed of the health needs of individual pupils, especially teachers responsible for pupils' programming and guidance who will contact the pupils' teachers where necessary.
- F. To enlist the aid of all the school staff in reporting to the health committee on conditions in the school environment which might be detrimental to the health of school children and staff.
- G. To be chairman of subcommittee on health instruction so that duplication and gaps in the health curriculum may be avoided.
- H. To be ex-officio member of all subcommittees on health.
- I. To set up procedures for the evaluation of the health programs, for example:
 1. Check on percentage of reported physical defects actually corrected.

2. Check with classroom teacher on improvement of pupil attitudes, behavior, and progress as a result of health program.
3. Check on improved attendance.
- J. To arrange student health committees for active participation in the health program.
- K. To see that the students to be examined by the school physician are available at the proper time.
- L. To be present for the physical examination of the students when in the opinion of the school physician this is advisable and to confer with the doctor on each visit regarding the health problems of the students examined.
- M. To be responsible for care of physicians' health record cards, follow-up cards, and files with a view to their order, completeness, and availability for use by all of the school staff; obtaining health records from other schools when necessary.
- N. To assist principal with readmission of children returning from illness in absence of school physician and nurse.
- O. To assist in selection of pupils to be examined by school physician.
 1. By careful follow-up and checking on health cards of pupils.
 2. By conferring with attendance officer, registrar, or school nurse regarding pupils frequently absent from school on account of illness.
 3. By consulting with counselor regarding pupils who are maladjusted or behavior problems.
 4. By arranging screening procedures for discovery early in the school year of heart and posture cases, etc.
- P. To acquaint home room teachers with all health problems of pupils under their immediate supervision.
- Q. To co-operate with health service staff in arrangements for health surveys, e.g., Immunization and vaccination campaigns; audiometer tests; tuberculosis, dental, and athlete's foot surveys.
- R. To check health record of pupils engaged in extracurricular activities, such as office messenger, cafeteria helpers, candidates for student body offices, and arrange for special health examinations where necessary.
- S. To facilitate the follow-up program for correction of physical defects by checking on all clinic appointments, reminding all students of dates of clinic appointments.
- T. To co-operate with the corrective physical education teachers and school physicians by following through on physicians' recommendations relative to assignments to physical education.
- U. To discuss with the attendance supervisors or registrars regarding health factors in truancy and desirability of examination by school physician.

III. *Personnel of the Health Committee*

So diverse and complex a problem as health co-ordination, involving practically all members of the school personnel, obviously calls for the establishment of a general health committee as a policy-forming body. It is apparent that the functions of such a committee will vary with the school and the local situation. In organizing a health committee, it is advisable to commence with the individuals most interested. For the first few meetings, supervisors or teachers with previous experience in health co-ordination might well be invited to assist with the organization activities. Personnel of the health committee might include as many of the following individuals as the principal deems necessary and desirable in his local situation:

Principal	Science Teacher
Vice-Principals	2 Physical Education Teachers
Registrar	2 Corrective Physical Education Teachers
Counselor	Social Living Teacher
Attendance Supervisors	Senior Problems Teacher
Home Economics Teacher	Cafeteria Manager
Physician	Custodian
Nurse	Health Chairman of P.-T.A.
Dentist	President of Student Body
Chairman of Student Health and other Subcommittees	Teachers with Special Health Interests
	Teaching Nurse

IV. *Functions of the health committee*

A. To make teachers health conscious by:

1. Arranging health talks by school health specialists and faculty members early in the year.
2. Conducting morning inspections.
A definite effort should be made by school physicians and nurses to train all teachers to observe daily the health condition of their pupils and to report any signs of illness or abnormality.
3. Arranging suitable health publicity.
 - a. Weekly health items in the school bulletins.
 - b. Subcommittees on periodicals and publicity.
 - (1) Selected from the faculty
 - (2) Selected from the student body
 - (3) Selected by the P.-T.A. health chairman from the P.-T.A.
 - c. Faculty contributions on health to news sheets of P.-T.A. and community publications.
 - d. Use of visual aids for and by faculty. Health exhibits and posters.
 - e. Up-to-date health periodicals and books in the faculty library or reading room, and up-to-date bibliography on health available to all teachers.
4. Encouraging and promoting teachers' attendance at health institute sessions and health conventions.
5. Having teachers appointed to subcommittees on health, such as:
 - a. Health instruction in the curriculum.
 - b. Cafeteria and the Nutrition Program.
 - c. School sanitation.
 - d. First Aid.
6. Urging the use by teachers of the health follow-up card for reporting abnormal health conditions of pupils to school physician or nurse.
7. Having teachers present for the physical examination of their pupils when advised by school physician.
8. Training of teachers (by school physicians and nurses) to assist with the screening of pupils for further examination, e.g., hearing tests and vision tests.

9. Conducting various school health surveys with the assistance of the teacher.

B. To make pupils health conscious by:

1. A comprehensive, co-ordinated, graded, and functional health education program based on pupil needs and interests including a knowledge of the structure, function, and care of the human body.
2. The utilization of school situations for teaching health habits, attitudes, and health knowledge
 - a. First Aid.
 - b. Attendance problems.
 - c. The work of the Safety Committee.
 - d. Cafeteria management and dietetics, selection of balanced diet, problem of candy and desserts.
 - e. Sanitary surveys by students and student supervision of classroom lighting, heating, and ventilation.
 - f. Nutrition period.
Value of rest, balanced diet, good eating habits.
 - g. Training for athletics.
How to achieve and keep in good condition.
 - h. Health publicity and student publications.
3. Familiarity with and utilization of health service facilities by the students.
 - a. Field trips to centers of various community health services, e.g., hospitals, clinics, and public health departments.
 - b. Student participation in first aid *under supervision*.
 - c. Adequate physical examination with opportunity for consultation with various school health specialists. The keeping of growth records of pupils by physical education teachers or classroom teachers in elementary schools.
 - d. Suitable standardized health tests for evaluating health knowledge, needs, and attitudes of pupils.
 - e. Guidance of students in relation to student program load.
 - f. Emphasis on correction of physical and emotional defects when present.

4. Practice of and adherence to high personal standards of mental and physical health on the part of the school staff as, for example:
 - a. Posture and personal appearance.
 - b. Remaining home when ill.
 - c. Wholesome attitudes.
 - d. Balanced diet.
 - e. Regular habits of recreation.
 5. The use of pupil health committees and subcommittees similar to the well-known safety committees. See School Publication No. 330, Page 8.
- C. To make parents health conscious by:
1. Individual conferences at home or at school with school authorities and health specialists.
Parents should be made to realize the importance of the correction and prevention of physical defects in relation to health and scholastic attainments and good citizenship. Written communications such as home notices as indicated.
 2. Having parents present for physical examination of younger pupils and in case of special problems of secondary pupils.
 3. Health meetings for parents
 - a. P.-T.A. meetings.
 - b. Group conferences with health specialists.
 - c. Parent education classes.
 4. Health literature, open house with health exhibits, projects, plays, etc., by staff and students.
 5. Informing parents of community health services and health education programs.
 6. Observance of national health weeks, days, etc.
- D. To integrate health education (instruction) and health service by:
1. Having Health Service Section staff active members of the health committee.
 2. Using the reports of the health examinations as teaching material, e. g., how to avoid dental decay; how to achieve good posture, how to maintain good nutrition.
 3. Using the health situations of the classroom for instruction purposes, such as ventilation, heating, seating, lighting, and cleanliness.
 4. Utilizing general school surveys, e. g., tuberculosis case-finding surveys, vision tests, dental surveys, surveys for athlete's foot, etc.
 5. Inviting school physicians, dentists, and nurses to give health instruction in those areas where they may make a special contribution, e.g., sex education, senior problems, family relations, home nursing and care of the sick, first aid, etc.
- E. To inform the school staff of the health conditions of the students by:
1. Making the health co-ordinator responsible for all available health reports reaching teachers, attendance supervisors, counselor, principal, etc.
 2. Having health co-ordinator talk over special cases with teachers concerned.
 3. Preparing a record of students with attendance, to keep on file in attendance office for use of attendance supervisor.
- F. To set up procedures to improve health conditions of the school plant as they affect teachers or students by:
1. Establishing the policy that, as far as possible, alterations and improvements necessary for improving health conditions of the school plant have the first claim upon the school budget, e.g., adequate hand washing facilities; surfacing playground to prevent dust; school cafeteria equipment facilities and operation, with health the primary objective; rest class facilities to be adequate; classroom lighting in accordance with recommendations of modern science; classroom seating adjusted to the individual needs of pupils; and rooms and facilities for isolation of sick children.
 2. Inspecting and reporting regularly on sanitary conditions of the school plant by school physicians and nurses, teachers, and custodians.
- G. To establish educational and administrative procedures which will promote healthful school living by:

1. Developing methods of creating a school atmosphere conducive to the reduction of tensions, noise, hurry, and the encouragement of discipline based on self-direction and control.
 2. Making readjustments in the school day, e.g., morning kindergarten for younger children so as not to interfere with the afternoon nap.
 3. Reorganizing the school day to provide periods of relaxation, rest classes, adjustment of extracurricular activities and home study to allow for individual pupil differences in growth and development, endurance, and capacity.
 4. Providing adequately for a health program adjusted to the individual needs and differences of school children with a sufficient number of corrective physical education, nutrition, and rest classes.
 5. Arranging sufficient personnel and time for adequate counseling, including psychological, academic, and vocational guidance.
 6. Stimulating educational procedures and teaching techniques for use by the classroom teacher in promoting proper health habits.
 7. Promoting an educational program which will be conducive to better mental health and attitudes of pupils and teachers.
- H. To devise means of making adequate use of all community health resources by:
1. Establishing close contact with P.-T.A., Co-ordinating Council, and service clubs.
 2. Having lists of clinics, receiving hospitals, community health agencies with their schedules and regulations for those responsible for making clinic appointments and emergency treatment of pupils.
 3. Supporting physician and nurse in utilizing Federal, state, and municipal health agencies such as tuberculosis and venereal control bureaus, maternal and child hygiene divisions of local health departments with their programs of immunization and vaccination.
- I. To facilitate the follow-up and correction of health defects of school children through the health co-ordinator and the school nurse, using the following methods:
1. Arranging for a personal interview between the school physician and the parent.
 2. Sending personal letters to parents when the more formal home notices do not obtain results.
 3. Home calls by school nurse when parents are unable to or will not come to school.
 4. Having the health co-ordinator informed of all clinic appointments so that procedures may be established to avoid failed appointments.
 5. Having teachers also informed of clinic appointments of their pupils.
- J. To work for an effective method of transferring health records without loss by:
1. Obtaining the co-operation of the registrar's office and physical education department in carrying out the regulations relating to the transfer of health records. (See Administrative Guide No. 13.61.)
 2. Having health record cards of those who leave the city sent to a central file at the Health Service Section, Central Office, where they may be obtained if pupil returns to the city.
- K. To set up procedures for the evaluation of the health program of the individual school, e.g., health knowledge, health attitudes, and health behavior tests.
- L. To aid the principal in selecting health co-ordinator, arrange adequate time for him to work efficiently and set up the duties of the health co-ordinator according to the needs of the particular school situation.
- Such a complex problem as the duties and responsibilities of a health committee obviously calls for an executive or administrative head who will be responsible for making the contacts between all the different members of the personnel and between personnel, students, and parents, arranging committee meetings and in general keeping the machinery oiled, in operation, and going in the right direction. To carry out this program adequately, a health co-ordinator is essential.

UNIT XVII

TOPICAL REFERENCES

"The schools would save more than their own total cost if they could see to it that the oncoming generation of adults used its resources for health more wisely."—*Health Education*, National Education Association of the United States.

GENERAL TOPICS

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Health Education, N.E.A. & A.M.A., p. 15.

Health Education of the Public, Bauer & Hull, Chapter I, pp. 20-29.

What Can the School Do?

Health Education, N.E.A. & A.M.A., Chapter II, pp. 34-37.

What Are the Chief Divisions of School Health Education? (e.g., Personal Health, Community Health, First Aid, Etc.)

Teaching Procedures in Health Education, Conrad & Meister, p. 21.

What Methods or Procedures Are Useful for Teaching Health?

Teaching Procedures in Health Education, Conrad & Meister, pp. 48-97.

Health Education, N.E.A. & A.M.A. Chapter XI, pp. 243-295.

Health Instruction, Williams & Brownell, pp. 289-292.

What Materials Are Needed for Teaching Health?

Methods and Materials of Health Education, Williams & Shaw, Chapter VIII, pp. 263-285.

Teaching Procedures in Health Education, Conrad & Meister, pp. 98-126.

Principles of Health Education, C. E. Turner, pp. 280-286.

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How Can the Teacher Co-operate with the Physician, the Nurse, the Dentist, Etc.?

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Health Education, N.E.A. & A.M.A., General References, pp. 311-312.

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What Are the Values of the Morning Health Inspection?

Principles of Health Education, C. E. Turner, pp. 164-171.
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School Health Problems, Chenoweth & Selkirk, p. 154.

How Can One Organize and Carry On Health Units?

Teaching for Health, Hussey, Chapter XIII, pp. 250-264.
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Handbook of Health Education, Grout, pp. 136-157 and 233-259.
Teaching Procedures in Health Education, Conrad & Meister, pp. 45-47.
Methods and Materials of Health Education, Williams & Shaw, pp. 190-210.
Principles of Health Education, C. E. Turner, pp. 238-244.

What Community Resources Can Be Utilized In Teaching Health?

Health Education, N.E.A. & A.M.A., pp. 277-293 and 104-105.
Methods and Materials of Health Education, Williams & Shaw, Chapter V, pp. 163-174.
Principles of Health Education, C. E. Turner, pp. 258-259.

How Can Teachers Assist In Making the Health Examination an Educational Experience?

Handbook of Health Education, Grout, pp. 7-8.
School Health Problems, Chenoweth & Selkirk, pp. 101, 151 and 153 also 159-160.

How Can Teachers Stimulate Health Interest On the Part of Pupils?

Teaching Procedures in Health Education, Conrad & Meister, p. 30-47.
Teaching for Health, Hussey, Chapter XV, pp. 276-279.

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Emotion and the Educative Process, Prescott, Chapter X, pp. 197-251.
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Mental Hygiene of the School Child, Symonds, Chapters XI and XII, pp. 128-171.
Mental Deficiency, Tredgold, Chapter V, Psychology of the Normal and of the Defective Mind, pp. 72-112.
Mental Hygiene and Education, Sherman, Chapters X and XIII, pp. 200-245 and 263-289.
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Health Education, N.E.A. & A.M.A., Chapter IV, pp. 40-73.
Methods and Materials of Health Education, Williams & Shaw, pp. 53-62.
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What Should Be Taught in the Intermediate Grades (3rd to 6th)?

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Health Education, N.E.A. & A.M.A., p. 224.

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Handbook of Health Education, Grout, pp. 3-6.
Principles of Health Education, C. E. Turner, pp. 171-175.
Teaching for Health, Hussey, Chapter IX, pp. 123-141.

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The School Health Program, White House Conference, pp. 192-206.

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Health Education Program, School Publication No. 330, L. A. City Schools, pp. 33-35.

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